Access DB# 154101

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: BEN SAUCEY Examiner #: 73489 Date: 5/20/05
Art Unit: 1626 Phone Number ~~30~~ 20704 Serial Number: 10/609,088
Mail Box and Bldg/Room Location: REM-5335 Results Format Preferred (circle): PAPER · DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Process for Removal of Acrolein from Acrylonitrile

Inventors (please provide full names): Ward et al.

Earliest Priority Filing Date: _____

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

Removal of Acrolein from Acrylonitrile Stream. Exp
in the presence of an acid catalyst with a Scavenger
Compound containing a thiol or a hydroxyl group.

****

STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher: K. Fuller	NA Sequence (#) _____	STN ✓
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) 2	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr.Link _____
Date Completed: 5/26/05	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: 30	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: 45	Other _____	Other (specify) _____

PTO-1590 (8-01)

STIC Search Report
EIC 1700

SB31

STIC Database Tracking Number: 154101

TO:	From:
Ben Sackey Location: REM 5B35 Art Unit : 1626 May 26, 2005 Case Serial Number: 10/609088	Kathleen Fuller Location: EIC 1700 REMSEN 4B28 Phone: 571/272-2505 Kathleen.Fuller@uspto.gov

Search Notes

=> FILE REG
FILE 'REGISTRY' ENTERED AT 15:21:57 ON 26 MAY 2005
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STRUCTURE FILE UPDATES: 25 MAY 2005 HIGHEST RN 851163-60-5
DICTIONARY FILE UPDATES: 25 MAY 2005 HIGHEST RN 851163-60-5

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TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

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*                                                                    *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,    *
* effective March 20, 2005. A new display format, IDERL, is now      *
* available and contains the CA role and document type information. *
*                                                                    *
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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> FILE HCAPLUS
FILE 'HCAPLUS' ENTERED AT 15:22:02 ON 26 MAY 2005
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FILE COVERS 1907 - 26 May 2005 VOL 142 ISS 22
FILE LAST UPDATED: 25 May 2005 (20050525/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate
substance identification.

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

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=> D QUE
L3            1 SEA FILE=REGISTRY ABB=ON  ACROLEIN/CN
L4            1 SEA FILE=REGISTRY ABB=ON  ACRYLONITRILE/CN
L11       12231 SEA FILE=HCAPLUS ABB=ON  L3
L12       27790 SEA FILE=HCAPLUS ABB=ON  L4
L13        3860 SEA FILE=HCAPLUS ABB=ON  L12(L)(PREP OR PUR)/RL
L14        1179 SEA FILE=HCAPLUS ABB=ON  L11 AND L12
L15         200 SEA FILE=HCAPLUS ABB=ON  L11(L)REM/RL
L16          14 SEA FILE=HCAPLUS ABB=ON  L13 AND L15
L17           2 SEA FILE=REGISTRY ABB=ON  64-19-7 OR 79-14-1
L18       98066 SEA FILE=HCAPLUS ABB=ON  L17
L19        2276 SEA FILE=HCAPLUS ABB=ON  L18(L)CAT/RL
L20           3 SEA FILE=HCAPLUS ABB=ON  L14 AND L19
L21          20 SEA FILE=HCAPLUS ABB=ON  L14 AND ACID(L)CAT/RL
L22           4 SEA FILE=REGISTRY ABB=ON  60-23-1 OR 60-24-2 OR 68-11-1 OR
                123-81-9
L23       18871 SEA FILE=HCAPLUS ABB=ON  L22
L24          18 SEA FILE=HCAPLUS ABB=ON  L14 AND L23
L25         755 SEA FILE=HCAPLUS ABB=ON  ACROLEIN(L)REMOV?
L26         157 SEA FILE=HCAPLUS ABB=ON  ACROLEIN(4A)REMOV?
L27           1 SEA FILE=HCAPLUS ABB=ON  L24 AND L26
L28         504 SEA FILE=HCAPLUS ABB=ON  L22/DP
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L31          15 SEA FILE=HCAPLUS ABB=ON  L24 AND (SCAVENG? OR ?THIOL? OR
                HYDROXY? OR OH)
L32           1 SEA FILE=HCAPLUS ABB=ON  (L25 OR L15) AND L31
L33          35 SEA FILE=HCAPLUS ABB=ON  L30 OR L32
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=> D L33 BIB ABS HITIND HITSTR 1-35

L33  ANSWER 1 OF 35  HCAPLUS  COPYRIGHT 2005 ACS on STN
AN   2005:2238  HCAPLUS
DN   142:94278
TI   Process for the removal of acrolein from acrylonitrile
     product streams via acetal formation and distillation
IN   Ward, Gregory J.; Blanchard, Bryan C.; Moffatt, Scott G.; Monical, Valerie
     S.; Murphy, Richard D.; Ramchandran, Balshekar
PA   USA
SO   U.S. Pat. Appl. Publ., 5 pp.
     CODEN: USXXCO
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
     --------------      ----   --------    --------------------    --------
PI   US 2004267054        A1    20041230    US 2003-609088          20030627
     WO 2005003063        A2    20050113    WO 2004-US19826         20040621
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
            CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
            GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
            LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
            NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
            TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
            AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
            EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
            SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
            SN, TD, TG
```

applicant

PRAI US 2003-609088 A 20030627

AB **Acrolein** is **removed** from a process stream such as a process stream generated in the manufacture of acrylonitrile. The process includes reacting the **acrolein** with a compound containing a reactable **thiol** or **hydroxyl** moiety (e.g., 2-mercaptoethanol) in the presence of an acid catalyst (e.g., acetic acid) followed by distillation These refined process streams contain ≤5 ppm unreacted **acrolein.**

IC ICM C07C043-32

INCL 568594000

CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 23, 48

IT Acids, uses
RL: CAT (Catalyst use); USES (Uses)
(acetalization catalysts in a process for the **removal** of **acrolein** from acrylonitrile product streams via acetal formation and distillation)

IT Alcohols, reactions
Thiols (organic), reactions
RL: RGT (Reagent); RACT (Reactant or reagent)
(acetals with **acrolein**; in a process for the **removal** of **acrolein** from acrylonitrile product streams via acetal formation and distillation)

IT Acetalization catalysts
(acids; in a process for the **removal** of **acrolein** from acrylonitrile product streams via acetal formation and distillation)

IT Acetalization
(in a process for the **removal** of **acrolein** from acrylonitrile product streams via acetal formation and distillation)

IT **64-19-7**, Acetic **acid**, uses **79-14-1**, Glycolic **acid**, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(acetalization catalysts in a process for the **removal** of **acrolein** from acrylonitrile product streams via acetal formation and distillation)

IT **60-23-1DP**, 1-Amino-2-mercaptoethane, acetals with **acrolein**
60-24-2DP, 2-Mercaptoethanol, acetals with **acrolein**
68-11-1DP, Mercaptoacetic acid, acetals with **acrolein**
123-81-9DP, Ethylene glycol bisthioglycolate, acetals with **acrolein**
RL: BYP (Byproduct); REM (Removal or disposal); PREP (Preparation); PROC (Process)
(in a process for the **removal** of **acrolein** from acrylonitrile product streams via acetal formation and distillation)

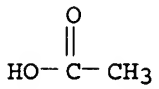
IT 7732-18-5, Water, uses
RL: NUU (Other use, unclassified); USES (Uses)
(in a process for the **removal** of **acrolein** from acrylonitrile product streams via acetal formation and distillation)

IT **107-02-8DP**, **Acrolein**, acetals with alcs. or **thiols**
RL: BYP (Byproduct); **REM (Removal or disposal)**; PREP (Preparation); PROC (Process)
(process for the **removal** of **acrolein** from acrylonitrile product streams via acetal formation and distillation)

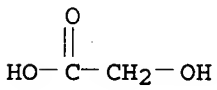
IT **107-13-1P**, Acrylonitrile, preparation
RL: PEP (Physical, engineering or chemical process); **PUR (Purification or recovery)**; PYP (Physical process); **PREP (Preparation)**; PROC (Process)
(process for the **removal** of **acrolein** from acrylonitrile product streams via acetal formation and distillation)

IT **64-19-7**, Acetic **acid**, uses **79-14-1**, Glycolic **acid**, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(acetalization catalysts in a process for the **removal** of **acrolein** from acrylonitrile product streams via acetal formation and distillation)

RN 64-19-7 HCAPLUS
CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)

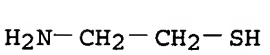


RN 79-14-1 HCAPLUS
CN Acetic acid, hydroxy- (9CI) (CA INDEX NAME)

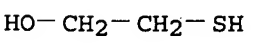


IT **60-23-1DP**, 1-Amino-2-mercaptoethane, acetals with **acrolein**
60-24-2DP, 2-Mercaptoethanol, acetals with **acrolein**
68-11-1DP, Mercaptoacetic acid, acetals with **acrolein**
123-81-9DP, Ethylene glycol bisthioglycolate, acetals with **acrolein**
RL: BYP (Byproduct); REM (Removal or disposal); PREP (Preparation); PROC (Process)
(in a process for the **removal** of **acrolein** from acrylonitrile product streams via acetal formation and distillation)

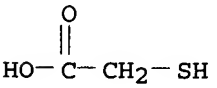
RN 60-23-1 HCAPLUS
CN Ethanethiol, 2-amino- (8CI, 9CI) (CA INDEX NAME)



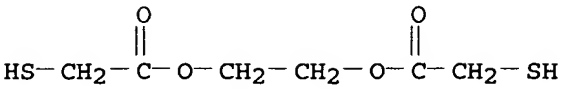
RN 60-24-2 HCAPLUS
CN Ethanol, 2-mercapto- (8CI, 9CI) (CA INDEX NAME)



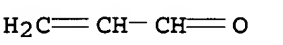
RN 68-11-1 HCAPLUS
CN Acetic acid, mercapto- (8CI, 9CI) (CA INDEX NAME)



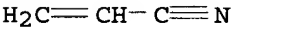
RN 123-81-9 HCAPLUS
CN Acetic acid, mercapto-, 1,2-ethanediyl ester (9CI) (CA INDEX NAME)



IT **107-02-8DP, Acrolein**, acetals with alcs. or **thiols**
RL: BYP (Byproduct); **REM (Removal or disposal)**; PREP (Preparation); PROC (Process)
(process for the **removal** of **acrolein** from acrylonitrile product streams via acetal formation and distillation)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



IT **107-13-1P**, Acrylonitrile, preparation
RL: PEP (Physical, engineering or chemical process); **PUR (Purification or recovery)**; PYP (Physical process); **PREP (Preparation)**; PROC (Process)
(process for the **removal** of **acrolein** from acrylonitrile product streams via acetal formation and distillation)
RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



L33 ANSWER 2 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:856907 HCAPLUS
DN 141:356031
TI Functionalized nanotubes
IN Fischer, Alan; Hoch, Robert; Moy, David; Lu, Ming; Martin, Mark; Niu, Chun Ming; Ogata, Naoya; Tennent, Howard; Dong, Liwen; Sun, Ji; Helms, Larry; Jameison, Fabian; Liang, Pam; Simpson, David
PA Hyperion Catalysis International, Inc., USA
SO U.S. Pat. Appl. Publ., 50 pp., Cont.-in-part of U.S. Ser. No. -594,673.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004202603	A1	20041014	US 2004-837125	20040430
	US 6203814	B1	20010320	US 1994-352400	19941208
PRAI	US 1994-352400	A3	19941208		
	US 1996-611368	B1	19960306		
	US 1996-37238P	P	19960925		
	US 1997-812856	B1	19970306		
	US 2000-594673	A2	20000616		

AB The invention describes graphitic nanotubes, which includes tubular fullerenes (commonly called "buckytubes") and fibrils, which are functionalized by chemical substitution or by adsorption of functional moieties. More specifically the invention relates to graphitic nanotubes which are uniformly or non-uniformly substituted with chemical moieties or upon which certain cyclic compds. are adsorbed and to complex structures

comprised of such functionalized nanotubes linked to one another. The invention also relates to methods for introducing functional groups onto the surface of such nanotubes. The invention further relates to uses for functionalized nanotubes.

IC ICM D01F009-12
ICS C07C063-333

INCL 423447200; 562492000; 564426000

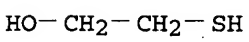
CC 66-4 (Surface Chemistry and Colloids)
Section cross-reference(s): 7

IT 56-87-1DP, L-Lysine, carbon fibril bonded, preparation 58-85-5DP, Biotin, surface reaction product with carbon fibrils **60-24-2DP**, Monothioethylene glycol, surface reaction product with carbon nanotubes and fibrils 75-89-8DP, 2,2,2-Trifluoroethanol, surface reaction product with carbon nanotubes and fibrils 79-06-1DP, 2-Propenamide, surface reaction product with carbon nanotubes and fibrils 79-10-7DP, 2-Propenoic acid, surface reaction product with carbon nanotubes and fibrils **107-02-8DP**, Propenal, surface reaction product with carbon nanotubes and fibrils 107-11-9DP, 3-Amino-1-propene, surface reaction product with carbon nanotubes and fibrils **107-13-1DP**, 2-Propenenitrile, surface reaction product with carbon nanotubes and fibrils 107-18-6DP, 2-Propen-1-ol, surface reaction product with carbon nanotubes and fibrils 108-31-6DP, 2,5-Furandione, surface reaction product with carbon nanotubes and fibrils 109-72-8DP, Butyllithium, surface reaction product with carbon nanotubes and fibrils 110-16-7DP, 2-Butenedioic acid (Z)-, surface reaction product with carbon nanotubes and fibrils 111-86-4DP, 1-Octanamine, surface reaction product with carbon nanotubes and fibrils 124-30-1DP, 1-Octadecanamine, surface reaction product with carbon nanotubes and fibrils 151-50-8DP, Potassium cyanide, surface reaction product with carbon nanotubes and fibrils 530-62-1DP, N,N'-Carbonyl diimidazole, surface reaction product with carbon nanotubes and fibrils 593-56-6DP, Methoxyamine hydrochloride, surface reaction product with carbon nanotubes and fibrils 814-68-6DP, Propenoyl chloride, surface reaction product with carbon nanotubes and fibrils 994-30-9DP, Chlorotriethylsilane, surface reaction product with carbon nanotubes and fibrils 1310-73-2DP, Sodium hydroxide, surface reaction product with carbon nanotubes and fibrils 1333-74-0DP, Hydrogen, surface reaction product with carbon nanotubes and fibrils 1336-21-6DP, Ammonium hydroxide, surface reaction product with carbon nanotubes and fibrils 1892-57-5DP, 1-Ethyl-3-(3-dimethylaminopropyl)carbodiimide, surface reaction product with carbon nanotubes and fibrils 2016-57-1DP, 1-Aminodecane, surface reaction product with carbon nanotubes and fibrils 2074-87-5DP, Cyanogen, surface reaction product with carbon nanotubes and fibrils 4048-33-3DP, 6-Aminohexan-1-ol, surface reaction product with carbon nanotubes and fibrils 4781-83-3DP, 2-Iminothiolane hydrochloride, surface reaction product with carbon nanotubes and fibrils 5591-94-6DP, surface reaction product with carbon nanotubes and fibrils 5957-17-5DP, Triethyl(2-hydroxyethyl)ammonium iodide, surface reaction product with carbon nanotubes and fibrils 7664-41-7DP, Ammonia, surface reaction product with carbon nanotubes and fibrils 7664-93-9DP, Sulfuric acid, surface reaction product with carbon nanotubes and fibrils 7697-37-2DP, Nitric acid, surface reaction product with carbon nanotubes and fibrils 7704-34-9DP, Sulfur, surface reaction product with carbon nanotubes and fibrils 7732-18-5DP, Water, surface reaction product with carbon nanotubes and fibrils 7782-44-7DP, Oxygen, surface reaction product with carbon nanotubes and fibrils 13214-66-9DP, 4-Phenylbutylamine, surface reaction product with carbon nanotubes and fibrils 19008-71-0DP, 8-Aminooctan-1-ol, surface reaction product with carbon nanotubes and fibrils 23160-46-5DP, 10-Aminodecan-1-ol, surface reaction product with carbon nanotubes and fibrils 103708-09-4DP, Sulfosuccinimidyl-4-(N-

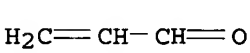
maleimidomethyl)cyclohexanecarboxylate, surface reaction product with carbon nanotubes and fibrils 142755-63-3DP, 18-Aminooctadecan-1-ol, surface reaction product with carbon nanotubes and fibrils
RL: SPN (Synthetic preparation); PREP (Preparation)
(surface functionalization of carbon nanotubes and fibrils for enzyme immobilization)

IT **60-24-2DP**, Monothioethylene glycol, surface reaction product with carbon nanotubes and fibrils **107-02-8DP**, Propenal, surface reaction product with carbon nanotubes and fibrils **107-13-1DP**, 2-Propenenitrile, surface reaction product with carbon nanotubes and fibrils
RL: SPN (Synthetic preparation); PREP (Preparation)
(surface functionalization of carbon nanotubes and fibrils for enzyme immobilization)

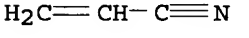
RN 60-24-2 HCAPLUS
CN Ethanol, 2-mercapto- (8CI, 9CI) (CA INDEX NAME)



RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



L33 ANSWER 3 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:848394 HCAPLUS
DN 142:37985
TI Palladium-catalyzed Mizoroki-Heck-type reactions using telluronium salts
AU Hirabayashi, Kazunori; Nara, Yoshiko; Shimizu, Toshio; Kamigata, Nobumasa
CS Department of Chemistry, Graduate School of Science, Tokyo Metropolitan University, Tokyo, 192-0397, Japan
SO Chemistry Letters (2004), 33(10), 1280-1281
CODEN: CMLTAG; ISSN: 0366-7022
PB Chemical Society of Japan
DT Journal
LA English
AB A Mizoroki-Heck-type reaction of telluronium iodides with olefins proceeded under mild conditions to produce substituted olefins in high yields. The reaction required a catalytic amount of palladium(II) species and a stoichiometric amount of silver(I) acetate as an additive. For example, the acetic acid ester palladium(2+) salt/acetic acid ester silver(1+) salt-catalyzed phenylation of 2-propenoic acid ester Bu ester using dimethyl(phenyl)telluronium iodide gave (2E)-3-phenyl-2-propenoic acid Bu ester in 99% yield.
CC 25-18 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 29
IT **107-02-8**, 2-Propenal, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of (phenyl)propenal by Mizoroki-Heck reaction using dimethyl(phenyl)telluronium iodide and acrylaldehyde as starting materials and palladium as catalyst and silver compound as additive)

IT **107-13-1**, 2-Propenenitrile, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of (phenyl)propenenitrile by Mizoroki-Heck reaction using dimethyl(phenyl)telluronium iodide and acrylonitrile as starting materials and palladium as catalyst and silver compound as additive)

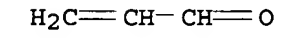
IT 3375-31-3
RL: **CAT (Catalyst use)**; USES (Uses)
(preparation of (phenyl)propenoic **acid** ester by Mizoroki-Heck reaction using dimethyl(phenyl)telluronium iodide and Bu acrylate as starting materials and palladium acetate as catalyst and silver compound as additive)

IT 563-63-3
RL: **CAT (Catalyst use)**; USES (Uses)
(preparation of (phenyl)propenoic **acid** ester by Mizoroki-Heck reaction using dimethyl(phenyl)telluronium iodide and Bu acrylate as starting materials and palladium as catalyst and silver acetate as additive)

IT 7647-10-1, Palladium chloride (PdCl2) 13965-03-2, Dichlorobis(triphenylphosphine)palladium
RL: **CAT (Catalyst use)**; USES (Uses)
(preparation of (phenyl)propenoic **acid** ester by Mizoroki-Heck reaction using dimethyl(phenyl)telluronium iodide and Bu acrylate as starting materials and palladium as catalyst and silver compound as additive)

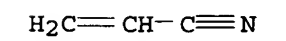
IT **107-02-8**, 2-Propenal, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of (phenyl)propenal by Mizoroki-Heck reaction using dimethyl(phenyl)telluronium iodide and acrylaldehyde as starting materials and palladium as catalyst and silver compound as additive)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



IT **107-13-1**, 2-Propenenitrile, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of (phenyl)propenenitrile by Mizoroki-Heck reaction using dimethyl(phenyl)telluronium iodide and acrylonitrile as starting materials and palladium as catalyst and silver compound as additive)

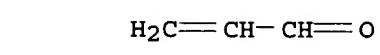
RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

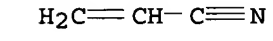
L33 ANSWER 4 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:469853 HCAPLUS
DN 137:154608
TI Quantitative Characterization of the Local Electrophilicity of Organic Molecules. Understanding the Regioselectivity on Diels-Alder Reactions
AU Domingo, Luis R.; Aurell, M. Jose; Perez, Patricia; Contreras, Renato

CS Instituto de Ciencia Molecular Departamento de Quimica Organica, Universidad de Valencia, Valencia, 46100, Spain
SO Journal of Physical Chemistry A (2002), 106(29), 6871-6875
CODEN: JPCAFH; ISSN: 1089-5639
PB American Chemical Society
DT Journal
LA English
AB Regional electrophilicity at the active sites of the reagents involved in polar Diels-Alder processes may be described on a quant. basis using an extension of the global electrophilicity index recently introduced by Parr et al. (J. Am. Chemical Society 1999, 121, 1922). The local or regional electrophilicity provides useful clues about the expected regioselectivity of the products on Diels-Alder reactions showing significant polar character. The local (regional) electrophilicity index shows significant advantages over other unnormalized definitions of relative electrophilicity proposed in the literature in the sense that it clearly identifies the relevant electrophilic sites in a mol. without restricting the search to those sites having comparable values of regional electrophilic/nucleophilic softness.
CC 22-5 (Physical Organic Chemistry)
IT 185313-96-6
RL: **CAT (Catalyst use)**; CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(Lewis **acid** catalyst model; quant. characterization of the local electrophilicity of organic mols. and its use as a clue about the expected regioselectivity of Diels-Alder reactions)
IT 74-85-1, Ethylene, reactions 74-86-2, Acetylene, reactions 78-79-5, 2-Methyl-1,3-butadiene, reactions 78-94-4, Methyl vinyl ketone, reactions 96-33-3, Methyl acrylate 106-99-0, 1,3-Butadiene, reactions **107-02-8**, Acrolein, reactions **107-13-1**, Acrylonitrile, reactions 107-25-5, Methyl vinyl ether 922-64-5, 1,1-Dicyanoethylene 926-56-7, 4-Methyl-1,3-pentadiene 1515-77-1, 1-(Dimethylamino)-1,3-butadiene 2004-70-8, trans-1,3-Pentadiene 3036-66-6, 1-Methoxy-1,3-butadiene 3638-64-0, Nitroethylene 5763-87-1, (Dimethylamino)ethylene 6651-43-0, 1-(Trimethylsilyloxy)-1,3-butadiene 38053-91-7, 2-(Trimethylsilyloxy)-1,3-butadiene 51943-18-1, Methanamine, N-methylene-, conjugate acid
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(quant. characterization of the local electrophilicity of organic mols. and its use as a clue about the expected regioselectivity of Diels-Alder reactions)
IT **107-02-8**, Acrolein, reactions **107-13-1**, Acrylonitrile, reactions
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(quant. characterization of the local electrophilicity of organic mols. and its use as a clue about the expected regioselectivity of Diels-Alder reactions)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS

CN 2-Propenenitrile (9CI) (CA INDEX NAME)



RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

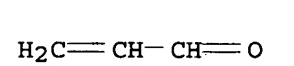
L33 ANSWER 5 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:119267 HCAPLUS
DN 136:167799
TI Process and apparatus for removing organic substances from a gas mixture
IN Prinz, Peter; Schummer, Gunter; Schmitz, Josef; Strobel, Rainer; Stuwe, Arnd
PA Ec Erdoelchemie Gmbh, Germany; Bayer Ag
SO Eur. Pat. Appl., 8 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1179359	A2	20020213	EP 2001-306341	20010724
	EP 1179359	A3	20020619		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	DE 10037774	A1	20020214	DE 2000-10037774	20000803
	ZA 2001006183	A	20030127	ZA 2001-6183	20010726
	US 2002087023	A1	20020704	US 2001-916336	20010730
	US 6541652	B2	20030401		
	CA 2354741	AA	20020203	CA 2001-2354741	20010802
	CN 1341471	A	20020327	CN 2001-132577	20010803
	JP 2002121180	A2	20020423	JP 2001-237174	20010803
	BG 105777	A	20020430	BG 2001-105777	20010803
PRAI	DE 2000-10037774	A	20000803		

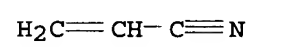
AB Process for isolating one or more organic substances from a gas mixture in which these organic substances are present, in which the gas mixture is subjected to a quenching in a column, characterized in that quenching is carried out in the upper part of the column and the quenching liquid is subjected to stripping in the lower part of the column. The method is suitable for use in the manufacture of acrylonitrile or methacrylonitrile.

IC ICM B01D053-00
ICS B01D053-14; B01D053-18
CC 35-2 (Chemistry of Synthetic High Polymers)
IT 64-19-7, Acetic acid, processes 74-90-8, Hydrogen cyanide, processes 75-05-8, Acetonitrile, processes 79-10-7, Acrylic acid, processes 100-54-9, Nicotinonitrile **107-02-8**, Acrolein, processes 124-38-9, Carbon dioxide, processes 288-42-6, Oxazole 630-08-0, Carbon monoxide, processes 764-42-1, Fumaronitrile 7727-37-9, Nitrogen, processes 7782-44-7, Oxygen, processes 14798-03-9, Ammonium, processes
RL: FMU (Formation, unclassified); **REM (Removal or disposal)**; FORM (Formation, nonpreparative); PROC (Process)
(process and apparatus for removing organic substances from a gas mixture such as
acrylonitrile synthesis gases)
IT **107-13-1P**, Acrylonitrile, preparation 126-98-7P, Methacrylonitrile
RL: IMF (Industrial manufacture); **PREP (Preparation)**
(process and apparatus for removing organic substances from a gas mixture such as

acrylonitrile synthesis gases)
IT **107-02-8**, Acrolein, processes
RL: FMU (Formation, unclassified); **REM (Removal or disposal)**;
FORM (Formation, nonpreparative); PROC (Process)
(process and apparatus for removing organic substances from a gas mixture such as
acrylonitrile synthesis gases)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



IT **107-13-1P**, Acrylonitrile, preparation
RL: IMF (Industrial manufacture); **PREP (Preparation)**
(process and apparatus for removing organic substances from a gas mixture such as
acrylonitrile synthesis gases)
RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



L33 ANSWER 6 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:895585 HCAPLUS
DN 136:38504
TI Rosin-fatty acid vinylic polymers as moisture vapor barrier coatings
IN Shah, Rajnikant; Adams, Stanley C.
PA Westvaco Corporation, USA
SO U.S., 8 pp., Cont.-in-part of U.S. Ser. No. 174,398, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 6

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6329068	B1	20011211	US 2000-545668	20000407
PRAI US 1998-174398	B2	19981014		

AB This invention relates to novel rosin-fatty acid vinylic polymer compns. which exhibit properties that make them useful for formulating moisture vapor barrier coatings for paper and other cellulosic base materials. In particular, this invention relates to rosin-fatty acid vinylic polymer moisture barrier coatings obtained from the addition polymerization reaction of a
mixture of rosin and fatty acid and a mixture of (meth)acrylic and vinylic monomers.
IC ICM B32B023-08
INCL 428514000
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 42, 43
IT 78-67-1, AIBN 80-15-9, Cumene hydroperoxide 94-36-0, Benzoyl peroxide, uses 110-05-4, tert-Butyl peroxide 614-45-9, tert-Butyl peroxybenzoate 13467-82-8, tert-Butyl peroctoate
RL: **CAT (Catalyst use)**; USES (Uses)
(catalyst; rosin-fatty **acid** vinylic polymers as moisture vapor barrier coatings)

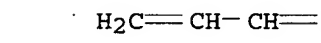
IT 78-85-3DP, Methacrolein, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 79-06-1DP, Acrylamide, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 79-10-7DP, Acrylic acid, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 79-39-0DP, Methacrylamide, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 79-41-4DP, Methacrylic acid, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 80-62-6DP, Methyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 80-63-7DP, Methyl α-chloroacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 96-05-9DP, Allyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 96-33-3DP, Methyl acrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 97-63-2DP, Ethyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 97-86-9DP, Isobutyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 97-88-1DP, Butyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 98-83-9DP, α-Methylstyrene, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 100-42-5DP, Styrene, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 101-43-9DP, Cyclohexyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 105-16-8DP, N,N-Diethylaminoethyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 106-91-2DP, Glycidyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. **107-02-8DP**, Acrolein, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. **107-13-1DP**, Acrylonitrile, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 126-98-7DP, Methacrylonitrile, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 137-05-3DP, Methyl 2-cyanoacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 140-88-5DP, Ethyl acrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 141-32-2DP, Butyl acrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 142-09-6DP, Hexyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 142-90-5DP, Lauryl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 585-07-9DP, tert-Butyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 688-84-6DP, 2-Ethylhexyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 689-12-3DP, Isopropyl acrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 816-74-0DP, Methallyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 868-77-9DP, 2-Hydroxyethyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 923-26-2DP, 2-Hydroxypropyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 925-60-0DP, Propyl acrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 1611-83-2DP, N-Phenylmethacrylamide, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 1888-94-4DP, 2-Chloroethyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 2039-87-4DP, o-Chlorostyrene, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 2156-96-9DP, Decyl acrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 2157-01-9DP, n-Octyl methacrylate, polymers with rosin

fatty acids and (meth)acrylic acid or esters and viny compds. 2177-42-6DP, 2-Nitro-2-methylpropyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 2177-70-0DP, Phenyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 2210-28-8DP, Propyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 2370-63-0DP, 2-Ethoxyethyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 2455-24-5DP, Tetrahydrofurfuryl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 2495-37-6DP, Benzyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 2675-94-7DP, N,N-Diethylacrylamide, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 2849-98-1DP, Amyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 2867-47-2DP, N,N-Dimethylaminoethyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 2998-18-7DP, sec-Butyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 3063-94-3DP, Hexafluoroisopropyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 3454-28-2DP, Furfuryl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 3683-12-3DP, 2-Phenylethyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 3775-90-4DP, tert-Butylaminoethyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 3887-02-3DP, N-Methylmethacrylamide, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 4655-34-9DP, Isopropyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 5138-86-3DP, 2-Ethylbutyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 5441-99-6DP, N,N-Diethylmethacrylamide, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 5883-17-0DP, N-Ethylacrylamide, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 6976-91-6DP, N,N-Dimethylmethacrylamide, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 6976-96-1DP, 3-Methoxybutyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 7336-27-8DP, Isoamyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 7370-88-9DP, N-Ethylmethacrylamide, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 7376-45-6DP, Crotyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 10595-06-9DP, 2-Phenoxyethyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 10595-80-9DP, 2-Sulfoethyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 13532-94-0DP, 2-n-Butoxyethyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 13861-22-8DP, Propargyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 16868-14-7DP, Cyclopentyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 25013-15-4DP, Vinyltoluene, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 25338-51-6DP, tert-Butylstyrene, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 31736-34-2DP, Cinnamyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 38785-10-3DP, Trifluoroethyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. 52858-59-0DP, Tetrahydropyranyl methacrylate, polymers with rosin fatty acids and

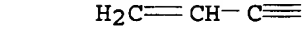
(meth)acrylic acid or esters and viny compds. 67905-44-6DP, 2-Methoxybutyl methacrylate, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds.
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(rosin-fatty acid vinylic polymers as moisture vapor barrier coatings)

IT **107-02-8DP**, Acrolein, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds. **107-13-1DP**, Acrylonitrile, polymers with rosin fatty acids and (meth)acrylic acid or esters and viny compds.
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(rosin-fatty acid vinylic polymers as moisture vapor barrier coatings)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 7 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:391919 HCAPLUS
DN 134:371325
TI Oxidation and ammoxidation of acrylonitrile process waste water organics
IN Cesa, Mark Clark; Graham, Anne Marie; Shuki, Albert Richard
PA The Standard Oil Company, USA
SO U.S., 7 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6238574	B1	20010529	US 1998-182774	19981030
PRAI US 1998-182774		19981030		

AB A process for upgrading aqueous acrylonitrile waste streams containing organic material comprising atomizing an acrylonitrile wastewater stream containing organic material, introducing the atomized acrylonitrile wastewater stream at a temperature below the decomposition temperature of the orgs. present in the wastewater stream, into a reaction zone containing a catalyst and at least one reactant gas, reacting the atomized wastewater stream and reactant gas in the presence of the catalyst to convert at least some of the orgs. in the wastewater stream into at least one compound selected from the group consisting of acetonitrile, hydrogen cyanide and acrylonitrile.

IC ICM C02F001-72
INCL 210763000
CC 60-2 (Waste Treatment and Disposal)

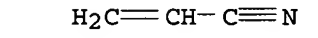
Section cross-reference(s): 35

IT **107-13-1P**, Acrylonitrile, processes
RL: FMU (Formation, unclassified); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); **PREP (Preparation)**; PROC (Process)
(oxidation and ammoxidn. of acrylonitrile process wastewater orgs. to recover acetonitrile, hydrogen cyanide or acrylonitrile)

IT 79-06-1, Acrylamide, processes **107-02-8**, Acrolein, processes 110-61-2, Succinonitrile 110-86-1, Pyridine, processes 288-13-1, Pyrazole 764-42-1, Fumaronitrile 1656-48-0, Bis(2-cyanoethyl)ether
RL: PEP (Physical, engineering or chemical process); **REM (Removal or disposal)**; PROC (Process)
(oxidation and ammoxidn. of acrylonitrile process wastewater orgs. to recover acetonitrile, hydrogen cyanide or acrylonitrile)

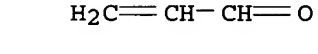
IT **107-13-1P**, Acrylonitrile, processes
RL: FMU (Formation, unclassified); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); **PREP (Preparation)**; PROC (Process)
(oxidation and ammoxidn. of acrylonitrile process wastewater orgs. to recover acetonitrile, hydrogen cyanide or acrylonitrile)

RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



IT **107-02-8**, Acrolein, processes
RL: PEP (Physical, engineering or chemical process); **REM (Removal or disposal)**; PROC (Process)
(oxidation and ammoxidn. of acrylonitrile process wastewater orgs. to recover acetonitrile, hydrogen cyanide or acrylonitrile)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 8 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:152276 HCAPLUS
DN 134:193859
TI Polyoxometallate supported catalysts for conversion of alkanes
IN Devlin, Anna Marie; Volpe, Anthony Frank, Jr.
PA Rohm and Haas Company, USA
SO Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1078687	A1	20010228	EP 2000-306863	20000810
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 6387841	B1	20020514	US 2000-626640	20000727
	CA 2315884	AA	20010223	CA 2000-2315884	20000814

	BR 2000003694	A	20010327	BR 2000-3694	20000818
	CN 1285240	A	20010228	CN 2000-124283	20000823
	CN 1129475	B	20031203		
	JP 2001087653	A2	20010403	JP 2000-252555	20000823
	US 2002142914	A1	20021003	US 2002-100946	20020319
PRAI	US 1999-150309P	P	19990823		
	US 2000-626640	A3	20000727		

AB These title catalysts are for example mixed metal oxides, optionally heteropolyacids on a polyoxometallate and used for the conversion of alkanes to unsatd. organic compds. Thus, propane was converted to acrylic acid at 380° in 3 s using a calcined 0.24 g Mo1V0.03Te0.23Nb0.08Ox catalyst on 1 g Cs3PMo12O40, showing selectivity 27.8 and acrylic acid yield 1.0%.

IC ICM B01J027-188
ICS B01J027-198; C07C051-215; C07C005-42

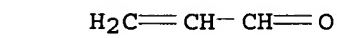
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67

IT 78-85-3P, Methacrolein 79-10-7P, Acrylic acid, preparation 79-41-4P, Methacrylic acid, preparation 106-99-0P, Butadiene, preparation **107-02-8P**, Acrolein, preparation **107-13-1P**, Acrylonitrile, preparation 108-31-6P, Maleic anhydride, preparation 110-16-7P, Maleic acid, preparation 115-07-1P, Propylene, preparation 115-11-7P, Isobutylene, preparation 126-98-7P, Methacrylonitrile 25167-67-3P, Butylene
RL: IMF (Industrial manufacture); PREP (Preparation)
(polyoxometallate supported mixed metal oxide catalysts for conversion of alkanes)

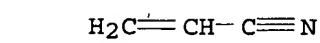
IT 11104-88-4, Phosphomolybdic **acid** 12026-91-4 68335-84-2 93222-18-5 121072-30-8 133644-76-5 312492-53-8 326859-62-5
RL: **CAT (Catalyst use)**; USES (Uses)
(support; polyoxometallate supported mixed metal oxide catalysts for conversion of alkanes)

IT **107-02-8P**, Acrolein, preparation **107-13-1P**, Acrylonitrile, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(polyoxometallate supported mixed metal oxide catalysts for conversion of alkanes)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

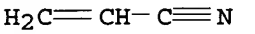
L33 ANSWER 9 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:314395 HCAPLUS
DN 132:308827
TI Method for the removal of aldehydes from chemical-manufacturing product streams during distillative purification by the addition of electron-donating group-substituted aromatic amines prior to product

distillation
IN Patel, Natu R.; Lewis, Vincent E.; Enderson, Margaret D.
PA Nalco/Exxon Energy Chemicals L.P., USA
SO Eur. Pat. Appl., 5 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

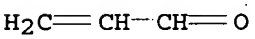
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 999207	A2	20000510	EP 1999-307810	19991004
EP 999207	A3	20000524		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6074532	A	20000613	US 1998-186579	19981105
JP 2000143606	A2	20000526	JP 1999-268036	19990922
KR 2000035214	A	20000626	KR 1999-48479	19991104
PRAI US 1998-186579	A	19981105		

AB A method is described for increasing the purification efficiency when distilling off aldehyde contaminants during chemical-manufacturing processes by adding a substituted aromatic amine, having electron-donating substituents, and a catalytic quantity of a mineral acid, at the input of a distillation column where the impure product-containing stream is added to the distillation column. The method is particularly useful for removal of aldehydes (e.g., acrolein) generated as a byproduct of acrylonitrile manufacture because the aldehyde forms a Schiff base with the aromatic amine which facilitates distillation of the desired product (e.g., acrylonitrile). Suitable aromatic amines are 2-aminoaniline, 3,4-di-methylaniline, 4-ethylaniline, etc.

IC ICM C07C253-34
ICS C07C255-08
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 23, 48
IT **107-13-1P**, Acrylonitrile, preparation
RL: PNU (Preparation, unclassified); **PUR (Purification or recovery); PREP (Preparation)**
(method for the removal of aldehydes from chemical-manufacturing product streams during distillative purification by the addition of electron-donating group-substituted aromatic amines prior to product distillation)
IT 75-07-0, Acetaldehyde, reactions 78-85-3, Methacrolein 100-52-7, Benzaldehyde, reactions **107-02-8**, Acrolein, reactions 123-38-6, Propionaldehyde, reactions
RL: RCT (Reactant); **REM (Removal or disposal)**; PROC (Process); RACT (Reactant or reagent)
(method for the removal of aldehydes from chemical-manufacturing product streams during distillative purification by the addition of electron-donating group-substituted aromatic amines prior to product distillation)
IT **107-13-1P**, Acrylonitrile, preparation
RL: PNU (Preparation, unclassified); **PUR (Purification or recovery); PREP (Preparation)**
(method for the removal of aldehydes from chemical-manufacturing product streams during distillative purification by the addition of electron-donating group-substituted aromatic amines prior to product distillation)
RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



IT **107-02-8**, Acrolein, reactions
RL: RCT (Reactant); **REM (Removal or disposal)**; PROC (Process); RACT (Reactant or reagent)
(method for the removal of aldehydes from chemical-manufacturing product streams
during distillative purification by the addition of electron-donating group-substituted aromatic amines prior to product distillation)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

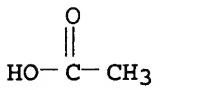


L33 ANSWER 10 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:59123 HCAPLUS
DN 132:123030
TI Suppression of staining in manufacturing (meth)acrylonitriles
IN Kashihara, Kunio; Nakajima, Sadao
PA Hakuto K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

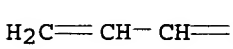
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2000026391	A2	20000125	JP 1998-192814	19980708
PRAI JP 1998-192814		19980708		

AB In the acrylonitrile process liquid which includes the acrolein and HCN, the nitroxyl radicals and acetic acid are used to suppress the staining. The acrylonitriles are manufactured by ammoxidn. of propylene. Thus, a mixture containing 200 g acrylonitrile, 0.1% HCN, and 2% acrolein was treated with 1.0 ppm 4-hydroxy-2,2,6,6-tetramethylpiperidine-1-oxyl and 0.5% AcOH to give a reaction mixture containing 12 ppm polymers.
IC ICM C07C253-32
ICS C07C253-26; C07C255-08
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 23, 45
IT **64-19-7**, Acetic **acid**, uses 2226-96-2, 4-Hydroxy-2,2,6,6-tetramethylpiperidine-1-oxyl 2564-83-2, 2,2,6,6-Tetramethylpiperidine-1-oxyl 2896-70-0, 4-Oxo-2,2,6,6-tetramethylpiperidine-1-oxyl 14691-88-4 95407-69-5, 4-Methoxy-2,2,6,6-tetramethylpiperidine-1-oxyl
RL: **CAT (Catalyst use)**; USES (Uses)
(polymerization inhibitor; suppression of staining in manufacturing (meth)acrylonitriles)
IT 74-90-8P, Hydrogen cyanide, preparation **107-02-8P**, Acrolein, preparation
RL: BYP (Byproduct); PREP (Preparation)
(suppression of staining in manufacturing (meth)acrylonitriles)
IT **107-13-1P**, Acrylonitrile, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(suppression of staining in manufacturing (meth)acrylonitriles)

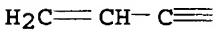
IT **64-19-7**, Acetic **acid**, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(polymerization inhibitor; suppression of staining in manufacturing (meth)acrylonitriles)
RN 64-19-7 HCAPLUS
CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)



IT **107-02-8P**, Acrolein, preparation
RL: BYP (Byproduct); PREP (Preparation)
(suppression of staining in manufacturing (meth)acrylonitriles)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



IT **107-13-1P**, Acrylonitrile, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(suppression of staining in manufacturing (meth)acrylonitriles)
RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



L33 ANSWER 11 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:43343 HCAPLUS
DN 132:93035
TI Method for purification of nitrile by removing aldehyde using anion exchange resin
IN Takahashi, Shuya; Asai, Koich; Matsushita, Mitsuo; Uehara, Yoshikazu
PA Mitsui Chemicals Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000016978	A2	20000118	JP 1998-184958	19980630
PRAI	JP 1998-184958		19980630		

AB Nitriles are purified by contacting the nitriles with anion exchange resin-supported compound bearing active methylene group and acidic group in the same mol. The above compound is preferably α-substituted acetic acid such as malonic acid, malonic acid monomethyl or monoethyl ester, cyanoacetic acid, acetoacetic acid, sulfoacetic acid, or acetonedicarboxylic acid. This process allows aldehydes to react with the compound possessing active methylene group and acidic group and efficiently and inexpensively removes minute quantity of aldehydes in nitriles. The anion exchange resins used can be readily regenerated by the usual manner. Thus, acrylonitrile containing 3 ppm acrolein was passed through a column of

15 mL Lewatit MP62 (Na+) malonic acid salt at 45 mL/h for 3 days to give acrylonitrile containing ≤0.1 ppm.

IC ICM C07C253-34
ICS C07C255-08

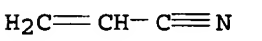
CC 23-19 (Aliphatic Compounds)

IT 75-05-8P, Acetonitrile, preparation **107-13-1P**, Acrylonitrile, preparation 126-98-7P, Methacrylonitrile
RL: **PUR (Purification or recovery)**; **PREP (Preparation)**
(method for purification of nitrile by removing aldehyde using active hydrogen-containing acidic compound-carrying anion exchange resin)

IT 75-07-0, Acetaldehyde, processes 78-85-3, Methacrolein **107-02-8**, Acrolein, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(method for purification of nitrile by removing aldehyde using active hydrogen-containing acidic compound-carrying anion exchange resin)

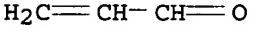
IT **107-13-1P**, Acrylonitrile, preparation
RL: **PUR (Purification or recovery)**; **PREP (Preparation)**
(method for purification of nitrile by removing aldehyde using active hydrogen-containing acidic compound-carrying anion exchange resin)

RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



IT **107-02-8**, Acrolein, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(method for purification of nitrile by removing aldehyde using active hydrogen-containing acidic compound-carrying anion exchange resin)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

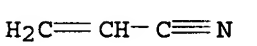


L33 ANSWER 12 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:43147 HCAPLUS
DN 132:79583
TI Polymers having active methylene groups for removal of aldehyde impurities in nitriles
IN Takahashi, Hidenari; Asai, Koichi; Matsushita, Mitsuo; Uehara, Yoshikazu
PA Mitsui Chemicals Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

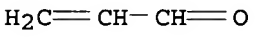
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000015113	A2	20000118	JP 1998-182915	19980629
PRAI	JP 1998-182915		19980629		

OS MARPAT 132:79583
AB Title polymers comprise anion-exchange polymers containing compds. having active methylene groups and acidic groups. Thus, a malonic acid-supported Lewatit MP 62 (weakly basic anion exchanger) removed acrolein in acrylonitrile effectively.
IC ICM B01J041-12

ICS C08K005-09; C08K005-41; C08K005-49; C08L101-02; C07C253-34
CC 38-3 (Plastics Fabrication and Uses)
IT 75-05-8P, Acetonitrile, preparation **107-13-1P**, Acrylonitrile, preparation 126-98-7P, Methacrylonitrile
RL: **PUR (Purification or recovery)**; **PREP (Preparation)**
(anion-exchange polymers containing compds. having active methylene groups for removal of aldehydes in nitriles)
IT 75-07-0, Acetaldehyde, processes 78-85-3, Methacrolein **107-02-8**, Acrolein, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(anion-exchange polymers containing compds. having active methylene groups for removal of aldehydes in nitriles)
IT **107-13-1P**, Acrylonitrile, preparation
RL: **PUR (Purification or recovery)**; **PREP (Preparation)**
(anion-exchange polymers containing compds. having active methylene groups for removal of aldehydes in nitriles)
RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)

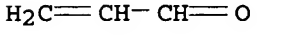


IT **107-02-8**, Acrolein, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(anion-exchange polymers containing compds. having active methylene groups for removal of aldehydes in nitriles)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

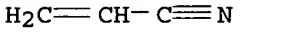


L33 ANSWER 13 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:332838 HCAPLUS
DN 131:75241
TI Heterogeneous - catalytic gas - phase oxidation of β-picoline
AU Heinz, Dieter
CS Leverkusen, Germany
SO Fortschritt-Berichte VDI, Reihe 3: Verfahrenstechnik (1999), 582, I-VIII, 1-160
CODEN: FVVEFK; ISSN: 0178-9503
PB VDI Verlag GmbH
DT Journal
LA German
AB Expts. on the oxidation of β-picoline to nicotinic acid in the gas phase using V2O5/TiO2 catalyst and the preparation of 3-cyanopyridine from acrolein, acrylonitrile, and ammonia were described.
CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 67
IT 1314-23-4, Zirconium dioxide, uses 1314-62-1, Vanadium pentoxide, uses 13463-67-7, Titanium dioxide, uses
RL: **CAT (Catalyst use)**; USES (Uses)
(catalyst; in gas-phase oxidation of β-picoline to nicotinic **acid**)
IT 100-54-9, Nicotinonitrile **107-02-8**, Acrolein, reactions **107-13-1**, Acrylonitrile, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of nicotinonitrile from acrolein, acrylonitrile and ammonia)
IT **107-02-8**, Acrolein, reactions **107-13-1**, Acrylonitrile, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of nicotinonitrile from acrolein, acrylonitrile and ammonia)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)

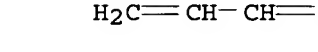


L33 ANSWER 14 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:577249 HCAPLUS
DN 129:232294
TI Theoretical study of the alternative structure of copolymer ligands and activity comparison of copolymer ligands
AU Li, Lei; Wang, Zuo-Xin; Wang, Xiao-Jun; Yuan, Guo-Qing
CS Beijing Univ. Chem. Technol., Beijing, 100029, Peop. Rep. China
SO Huaxue Xuebao (1998), 56(8), 747-754
CODEN: HHHPA4; ISSN: 0567-7351
PB Kexue Chubanshe
DT Journal
LA Chinese
AB A theor. study of the alternative structures of copolymer ligands (for Rh) of catalyst for carbonylation of methanol to acetic acid has been carried out in terms of the ASED-MO method and Monte Carlo method. AA, AB, BB, BA reaction pathways were calculated and energy barriers were determined Based on the supposition of the preexponent factor of rate consts. being equal, the reactivity ratios r1 and r2 were obtained. The copolymer structure was simulated and the ratio of active AB segment in the copolymer mol. chains was calculated The relative activity of copolymer ligand consisted of different two units was compared. The effect of temperature change and the feed ratio x, on the ratio of AB in the mol. chains was also discussed.
CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 35, 67
IT 78-94-4, 3-Buten-2-one, reactions 79-10-7, Acrylic acid, reactions 96-33-3, Methyl acrylate 100-43-6, 4-Vinylpyridine 100-69-6, 2-Vinylpyridine **107-02-8**, Acrolein, reactions **107-13-1**, Acrylonitrile, reactions 108-05-4, Vinyl acetate, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactivity ratio in polymerization)
IT 7440-16-6D, Rhodium, complexes with vinylpyridine copolymers, uses
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(theor. study of alternative structure and catalytic activity of copolymer ligands in Rh complexes as catalysts for carbonylation of methanol to acetic **acid**)
IT 25750-28-1D, Methyl acrylate-4-vinylpyridine copolymer, complexes with rhodium 25750-29-2D, Acrylic **acid**-4-vinylpyridine copolymer, complexes with rhodium 25852-53-3D, Acrylic **acid**

-2-vinylpyridine copolymer, complexes with rhodium 26836-60-2D, Acrylonitrile-2-vinylpyridine copolymer, complexes with rhodium 26877-88-3D, Vinyl acetate-4-vinylpyridine copolymer, complexes with rhodium 28408-26-6D, Vinyl acetate-2-vinylpyridine copolymer, complexes with rhodium 29729-87-1D, Methyl acrylate-2-vinylpyridine copolymer, complexes with rhodium 32236-74-1D, Acrylonitrile-4-vinylpyridine copolymer, complexes with rhodium 60292-97-9D, Acrolein-4-vinylpyridine copolymer, complexes with rhodium 90994-54-0D, complexes with rhodium 105133-74-2D, Butenone-2-vinylpyridine copolymer, complexes with rhodium 162844-26-0D, Acrolein-2-vinylpyridine copolymer, complexes with rhodium
RL: **CAT (Catalyst use)**; PRP (Properties); USES (Uses)
(theor. study of alternative structure of copolymer ligands and catalytic activity of Rh complexes as catalysts for carbonylation of methanol to acetic **acid**)

IT **107-02-8**, Acrolein, reactions **107-13-1**, Acrylonitrile, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactivity ratio in polymerization)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)

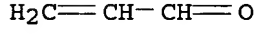
L33 ANSWER 15 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1997:738775 HCAPLUS
DN 128:61167
TI High-pressure kinetics of Lewis acid catalyzed cycloadditions and ene reactions. A convincing method for mechanistic delineation
AU Jenner, G.
CS Laboratoire de Piezochimie Organique, Synthese et Stereoractivite (CNRS URA 466), Institut de Chimie, Strasbourg, 67008, Fr.
SO New Journal of Chemistry (1997), 21(10), 1085-1090
CODEN: NJCHE5; ISSN: 1144-0546
PB Gauthier-Villars
DT Journal
LA English
AB The mechanistic course of Lewis acid catalyzed cycloaddns. and ene reactions is determined by high-pressure kinetics. On the basis of activation vols., the concertedness of [π4 + π2] cycloaddns. is not altered by the presence of the catalyst. This is also valid for the [π2 + π2 + π2] cycloaddn., but not for the AlCl3 catalyzed cyclobutene formation in [2 + 2] cycloaddns., which proceeds stepwise. The Lewis acid catalyzed ene reaction involving (C-H-C) hydrogen transfer is a two-step process with a dipolar acyclic transition state. These results should give confidence in the high-pressure method to delineate reaction mechanisms.
CC 22-4 (Physical Organic Chemistry)
IT Lewis acids
RL: **CAT (Catalyst use)**; USES (Uses)
(high-pressure kinetics of Lewis **acid** catalyzed cycloaddns. and ene reaction)

IT 7446-70-0, Aluminum trichloride, uses 7646-85-7, Zinc dichloride, uses
7791-03-9, Lithium perchlorate 10026-11-6, Zirconium tetrachloride
17631-68-4 18323-96-1
RL: **CAT (Catalyst use)**; USES (Uses)
(high-pressure kinetics of Lewis **acid** catalyzed cycloaddns. and ene reaction)

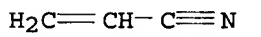
IT 78-79-5, reactions 78-94-4, Methyl vinyl ketone, reactions
107-02-8, Acrolein, reactions **107-13-1**,
2-Propenenitrile, reactions 109-92-2, Ethyl vinyl ether 110-83-8,
Cyclohexene, reactions 121-46-0, Bicyclo[2.2.1]hepta-2,5-diene
498-66-8, Bicyclo[2.2.1]hept-2-ene 534-22-5, 2-Methylfuran 922-67-8,
Methyl propiolate 4170-30-3, Crotonaldehyde
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(high-pressure kinetics of Lewis acid catalyzed cycloaddns. and ene reaction)

IT **107-02-8**, Acrolein, reactions **107-13-1**,
2-Propenenitrile, reactions
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(high-pressure kinetics of Lewis acid catalyzed cycloaddns. and ene reaction)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



RE.CNT 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 16 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1997:617963 HCAPLUS
DN 127:283826
TI Functionalized nanotubes
IN Fischer, Alan; Hoch, Robert; Moy, David; Lu, Ming; Martin, Mark; Niu, Chun Ming; Ogata, Naoya; Tennent, Howard; Dong, Liwen; Sun, Ji; Helms, Larry; Jameison, Fabian; Liang, Pam; Simpson, David
PA Hyperion Catalysis International, Inc., USA
SO PCT Int. Appl., 133 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 5

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9732571	A1	19970912	WO 1997-US3553	19970305

W: AM, AT, AU, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA, US, UZ, VN, YU
RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB,

GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

CA 2247820	AA	19970912	CA 1997-2247820	19970305
AU 9721979	A1	19970922	AU 1997-21979	19970305
AU 724277	B2	20000914		
EP 910340	A1	19990428	EP 1997-914892	19970305
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
CN 1217653	A	19990526	CN 1997-194402	19970305
BR 9707845	A	19990727	BR 1997-7845	19970305
JP 2002503204	T2	20020129	JP 1997-531955	19970305
IL 125987	A1	20030212	IL 1997-125987	19970305
RU 2200562	C2	20030320	RU 1998-116596	19970305
PRAI US 1996-37238	P	19960306		
US 1996-37238P	P	19960306		
WO 1997-US3553	W	19970305		

AB Graphitic nanotubes, which include tubular fullerenes (commonly called buckytubes) and fibrils, which are functionalized by chemical substitution or by adsorption of functional moieties are claimed. More specifically the invention relates to graphitic nanotubes which are uniformly or nonuniformly substituted with chemical moieties or upon which certain cyclic compds. are adsorbed and to complex structures comprised of such functionalized nanotubes linked to one another. The invention also relates to methods for introducing functional groups onto the surface of such nanotubes. The invention further relates to uses for functionalized nanotubes, which include enzyme immobilization for sample separation and immobilizing a biocatalyst capable of catalyzing a reaction on the functionalized nanotubes.

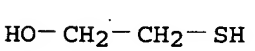
IC ICM A61K009-00
ICS A01N025-00; C09C001-56; B32B005-16
CC 66-4 (Surface Chemistry and Colloids)
Section cross-reference(s): 7

IT 56-87-1DP, L-Lysine, carbon fibril bonded, preparation 58-85-5DP, Biotin, surface reaction product with carbon fibrils **60-24-2DP**, Monothioethylene glycol, surface reaction product with carbon nanotubes and fibrils 75-89-8DP, 2,2,2-Trifluoroethanol, surface reaction product with carbon nanotubes and fibrils 79-06-1DP, 2-Propenamide, surface reaction product with carbon nanotubes and fibrils, preparation 79-10-7DP, 2-Propenoic acid, surface reaction product with carbon nanotubes and fibrils, preparation **107-02-8DP**, Propenal, surface reaction product with carbon nanotubes and fibrils 107-11-9DP, 3-Amino-1-propene, surface reaction product with carbon nanotubes and fibrils **107-13-1DP**, 2-Propenenitrile, surface reaction product with carbon nanotubes and fibrils, preparation 107-18-6DP, 2-Propen-1-ol, surface reaction product with carbon nanotubes and fibrils, preparation 108-31-6DP, 2,5-Furandione, surface reaction product with carbon nanotubes and fibrils, preparation 109-72-8DP, Butyllithium, surface reaction product with carbon nanotubes and fibrils 110-16-7DP, 2-Butenedioic acid (Z)-, surface reaction product with carbon nanotubes and fibrils 111-86-4DP, 1-Octanamine, surface reaction product with carbon nanotubes and fibrils 124-30-1DP, 1-Octadecanamine, surface reaction product with carbon nanotubes and fibrils 151-50-8DP, Potassium cyanide, surface reaction product with carbon nanotubes and fibrils 530-62-1DP, N,N'-Carbonyl diimidazole, surface reaction product with carbon nanotubes and fibrils 593-56-6DP, Methoxyamine hydrochloride, surface reaction product with carbon nanotubes and fibrils 814-68-6DP, Propenoyl chloride, surface reaction product with carbon nanotubes and fibrils 994-30-9DP, Chlorotriethylsilane, surface reaction product with carbon nanotubes and fibrils 1310-73-2DP, Sodium hydroxide, surface reaction product with carbon nanotubes and fibrils 1333-74-0DP,

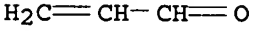
Hydrogen, surface reaction product with carbon nanotubes and fibrils, preparation 1336-21-6DP, Ammonium hydroxide, surface reaction product with carbon nanotubes and fibrils 1892-57-5DP, 1-Ethyl-3-(3-dimethylaminopropyl)carbodiimide, surface reaction product with carbon nanotubes and fibrils 2016-57-1DP, 1-Aminodecane, surface reaction product with carbon nanotubes and fibrils 2074-87-5DP, Cyanogen, surface reaction product with carbon nanotubes and fibrils 4048-33-3DP, 6-Aminohexan-1-ol, surface reaction product with carbon nanotubes and fibrils 4781-83-3DP, 2-Iminothiolane hydrochloride, surface reaction product with carbon nanotubes and fibrils 5591-94-6DP, surface reaction product with carbon nanotubes and fibrils 5957-17-5DP, Triethyl(2-hydroxyethyl)ammonium iodide, surface reaction product with carbon nanotubes and fibrils 7664-41-7DP, Ammonia, surface reaction product with carbon nanotubes and fibrils, preparation 7664-93-9DP, Sulfuric acid, surface reaction product with carbon nanotubes and fibrils, preparation 7697-37-2DP, Nitric acid, surface reaction product with carbon nanotubes and fibrils, preparation 7704-34-9DP, Sulfur, surface reaction product with carbon nanotubes and fibrils, preparation 7732-18-5DP, Water, surface reaction product with carbon nanotubes and fibrils, preparation 7782-44-7DP, Oxygen, surface reaction product with carbon nanotubes and fibrils, preparation 13214-66-9DP, 4-Phenylbutylamine, surface reaction product with carbon nanotubes and fibrils 19008-71-0DP, 8-Aminooctan-1-ol, surface reaction product with carbon nanotubes and fibrils 23160-46-5DP, 10-Aminodecan-1-ol, surface reaction product with carbon nanotubes and fibrils 103708-09-4DP, Sulfosuccinimidyl-4-(N-maleimidomethyl)cyclohexanecarboxylate, surface reaction product with carbon nanotubes and fibrils 142755-63-3DP, 18-Aminooctadecan-1-ol, surface reaction product with carbon nanotubes and fibrils
RL: SPN (Synthetic preparation); PREP (Preparation)
(surface functionalization of carbon nanotubes and fibrils for enzyme immobilization)

IT **60-24-2DP**, Monothioethylene glycol, surface reaction product with carbon nanotubes and fibrils **107-02-8DP**, Propenal, surface reaction product with carbon nanotubes and fibrils **107-13-1DP**, 2-Propenenitrile, surface reaction product with carbon nanotubes and fibrils, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(surface functionalization of carbon nanotubes and fibrils for enzyme immobilization)

RN 60-24-2 HCAPLUS
CN Ethanol, 2-mercapto- (8CI, 9CI) (CA INDEX NAME)



RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

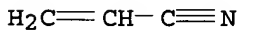


RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)

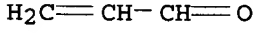
L33 ANSWER 17 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1997:544238 HCAPLUS
DN 127:191191
TI Regeneration of weak basic anionic exchange resin for purification of acrylonitrile
IN Uehara, Yoshikazu; Kanbara, Yoshihiko; Tsukahara, Yasushi; Nozaki, Shohei
PA Mitsui Toatsu Chemicals, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09206604	A2	19970812	JP 1996-18657	19960205
PRAI	JP 1996-18657		19960205		

AB The title process consists of contacting the used primary and/or secondary amine-containing exchange resins (e.g., Diaion WA-20, Lewatit S-100) having adsorbed aldehydes (e.g., acrolein) with mineral acids (e.g., H2SO4, HCl).
IC ICM B01J049-00
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 46
IT **107-13-1P**, Acrylonitrile, preparation
RL: **PUR (Purification or recovery); PREP (Preparation)**
(regeneration of weak basic anionic exchange resin for purification of acrylonitrile)
IT **107-02-8**, Acrolein, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(regeneration of weak basic anionic exchange resin for purification of acrylonitrile)
IT **107-13-1P**, Acrylonitrile, preparation
RL: **PUR (Purification or recovery); PREP (Preparation)**
(regeneration of weak basic anionic exchange resin for purification of acrylonitrile)
RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)

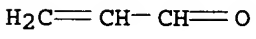


IT **107-02-8**, Acrolein, processes
RL: **REM (Removal or disposal)**; PROC (Process)
(regeneration of weak basic anionic exchange resin for purification of acrylonitrile)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



L33 ANSWER 18 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:737386 HCAPLUS
DN 126:237943
TI Molybdovanadophosphate (NPMoV)/hydroquinone/O2 system as an efficient reoxidation system in palladium-catalyzed oxidation of alkenes

AU Yokota, Takahiro; Fujibayashi, Shinya; Nishiyama, Yutaka; Sakaguchi, Satoshi; Ishii, Yasutaka
CS Department of Applied Chemistry, Faculty of Engineering, Kansai University, Suita Osaka, 564, Japan
SO Journal of Molecular Catalysis A: Chemical (1996), 114(1-3), 113-122
CODEN: JMCCF2; ISSN: 1381-1169
PB Elsevier
DT Journal
LA English
OS CASREACT 126:237943
AB The molybdovanadophosphate (NPMoV)-hydroquinone (I)-O2 system was an efficient reoxidn. system in Pd-catalyzed oxidns. of alkenes and related compds. Thus, acetoxylations of cycloalkenes with O2 as the final oxidant were cleanly performed using the multicatalytic system consisting of Pd(OAc)2-I-NPMoV to form 3-acetoxy-1-cycloalkenes in good yields. Cyclopentene and cyclohexene were converted into the corresponding allylic acetates in almost quant. yields. Omitting I from the catalytic system led to low yields of the acetates. Acetoxylation of cyclooctene was achieved satisfactorily by replacing I in the multicatalytic system by chlorohydroquinone. Molybdovanadophosphates, which catalyze the smooth dehydrogenation of I to benzoquinone with O2, rapidly promoted the present Pd(II)-catalyzed acetoxylation of cycloalkenes. By the use of a mixed EtOH-H2O solvent under these conditions, Wacker-type oxidns. of cyclohexene and styrene were accomplished in fair-to-good yields. Monosubstituted alkenes such as Et acrylate and acrylonitrile underwent acetalization by this catalytic system to give the corresponding acetals quant.
CC 21-2 (General Organic Chemistry)
Section cross-reference(s): 67
IT 123-31-9, Hydroquinone, uses 3375-31-3, Palladium diacetate 7631-95-0, Disodium molybdate 7664-38-2, Phosphoric **acid**, uses 7782-44-7, Oxygen, uses 13718-26-8, Sodium metavanadate
RL: **CAT (Catalyst use)**; USES (Uses)
(molybdovanadophosphate (NPMoV)-hydroquinone-O2 system as efficient reoxidn. system in palladium-catalyzed oxidation of alkenes)
IT 100-42-5, Styrene, reactions **107-02-8**, Acrolein, reactions **107-13-1**, Acrylonitrile, reactions 110-83-8, Cyclohexene, reactions 140-88-5, Ethyl acrylate 142-29-0, Cyclopentene 591-47-9, 4-Methyl-1-cyclohexene 591-49-1 628-92-2, Cycloheptene 931-88-4, Cyclooctene 1501-82-2, Cyclododecene 3054-95-3, Acrolein diethyl acetal 38451-18-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(molybdovanadophosphate (NPMoV)-hydroquinone-O2 system as efficient reoxidn. system in palladium-catalyzed oxidation of alkenes)
IT **107-02-8**, Acrolein, reactions **107-13-1**, Acrylonitrile, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(molybdovanadophosphate (NPMoV)-hydroquinone-O2 system as efficient reoxidn. system in palladium-catalyzed oxidation of alkenes)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)

$H_2C{=}CH{-}C{\equiv}N$

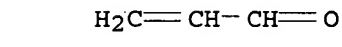
RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L33 ANSWER 19 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:574914 HCAPLUS
DN 123:40057
TI The development of a novel strategy for the microbial treatment of acrylonitrile effluents
AU Wyatt, J.M.; Knowles, C.J.
CS Biological Laboratory, University of Kent, Canterbury, CT2 7NJ, UK
SO Biodegradation (1995), 6(2), 93-107
CODEN: BIODEG; ISSN: 0923-9820
DT Journal
LA English
AB Effluent from acrylonitrile manufacturing is difficult to biodegrade. It contains 9 major organic components: acetic acid, acrylonitrile, acrylamide, acrylic acid, acrolein, cyanopyridine, fumaronitrile, succinonitrile, and maleimide. A range of bacteria were isolated that can grow on, or convert all the organic components of acrylonitrile manufacturing effluent. These bacteria can be used as the basis of a mixed culture system to treat the effluent. The bacteria were utilized in batch and continuous cultures to degrade a synthetic wastewater containing acrylonitrile, acrylamide, acrylic acid, cyanopyridine, and succinonitrile. The mixed microbial population was adapted by varying growth rates and switching from continuous to batch and back to continuous growth, to degrade these 5 compds. and acrolein, fumaronitrile, and maleimide.
CC 60-1 (Waste Treatment and Disposal)
Section cross-reference(s): 10
IT **107-13-1P**, Acrylonitrile, processes
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); REM (Removal or disposal); BIOL (Biological study); **PREP (Preparation)**; PROC (Process)
(strategy for mixed culture bacterial degradation of organic components of acrylonitrile manufacturing effluent)
IT 79-06-1, Acrylamide, processes 79-10-7, Acrylic acid, processes **107-02-8**, Acrolein, processes 110-61-2, Succinonitrile 541-59-3, Maleimide 764-42-1, Fumaronitrile 29386-66-1, Cyanopyridine
RL: BPR (Biological process); BSU (Biological study, unclassified); **REM (Removal or disposal)**; BIOL (Biological study); PROC (Process)
(strategy for mixed culture bacterial degradation of organic components of acrylonitrile manufacturing effluent)
IT **107-13-1P**, Acrylonitrile, processes
RL: BPR (Biological process); BSU (Biological study, unclassified); IMF (Industrial manufacture); REM (Removal or disposal); BIOL (Biological study); **PREP (Preparation)**; PROC (Process)
(strategy for mixed culture bacterial degradation of organic components of acrylonitrile manufacturing effluent)
RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)

$H_2C{=}CH{-}C{\equiv}N$

IT **107-02-8**, Acrolein, processes
RL: BPR (Biological process); BSU (Biological study, unclassified);

REM (Removal or disposal); BIOL (Biological study); PROC (Process)
(strategy for mixed culture bacterial degradation of organic components of acrylonitrile manufacturing effluent)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



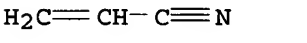
L33 ANSWER 20 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:458200 HCAPLUS
DN 121:58200
TI Ammoxidation of olefins
IN Paparizos, Christos; Shaw, Wilfrid Garside
PA Standard Oil Co., USA
SO Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 573713	A1	19931215	EP 1992-305436	19920612
	EP 573713	B1	19970102		
	R: AT, DE, ES, GB, IT, NL				
	US 5134105	A	19920728	US 1990-495875	19900319
	AT 147070	E	19970115	AT 1992-305436	19920612
	ES 2095406	T3	19970216	ES 1992-305436	19920612
PRAI	US 1990-495875		19900319		
	EP 1992-305436	A	19920612		

AB Olefins such as propylene and isobutylene are converted to the corresponding unsatd. nitriles, acrylonitrile, and methacrylonitrile, resp., by reacting a mixture of the olefin, ammonia, and mol. oxygen-containing gas in the presence of a catalyst containing the oxides of molybdenum, bismuth, iron, cobalt, nickel, and chromium, and either phosphorus or antimony or mixts. thereof, and an alkali metal or mixture thereof, and optionally one element selected from the group of an alkaline earth metal, a rare earth metal, niobium, thallium, arsenic, magnesium, zinc, cadmium, vanadium, boron, calcium, tin, germanium, manganese, tungsten, tellurium, or mixts. thereof.
IC ICM C07C253-26
ICS C07C255-08
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 67
IT 1309-64-4, Antimony trioxide, uses 1333-82-0, Chromium trioxide 7439-95-4D, Magnesium, complex oxides 7439-96-5D, Manganese, complex oxides 7440-03-1D, Niobium, complex oxides 7440-28-0D, Thallium, complex oxides 7440-31-5D, Tin, complex oxides 7440-33-7D, Tungsten, complex oxides 7440-38-2D, Arsenic, complex oxides 7440-42-8D, Boron, complex oxides 7440-43-9D, Cadmium, complex oxides 7440-56-4D, Germanium, complex oxides 7440-62-2D, Vanadium, complex oxides 7440-66-6D, Zinc, complex oxides 7440-70-2D, Calcium, complex oxides 7664-38-2, Phosphoric **acid**, uses 7757-79-1, Nitric **acid** potassium salt, uses 7782-61-8, Ferric nitrate nonahydrate 7789-18-6, Cesium nitrate 10026-22-9, Cobalt nitrate hexahydrate 10035-06-0, Bismuth nitrate pentahydrate 12027-67-7, Ammonium heptamolybdate 13478-00-7, Nickel nitrate hexahydrate 13494-80-9D, Tellurium, complex oxides 62067-70-3 155948-76-8 155948-78-0

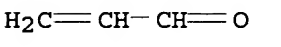
156260-89-8 156260-90-1
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, for ammoxidn. of olefins to nitriles)
IT **107-02-8P**, 2-Propenal, preparation **107-13-1P**, 2-Propenenitrile, preparation
RL: PREP (Preparation)
(preparation of, by ammoxidn. of propylene, catalysts for)
IT **107-02-8P**, 2-Propenal, preparation **107-13-1P**, 2-Propenenitrile, preparation
RL: PREP (Preparation)
(preparation of, by ammoxidn. of propylene, catalysts for)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)

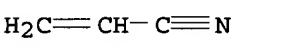


L33 ANSWER 21 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1992:650942 HCAPLUS
DN 117:250942
TI Homogeneous catalytic hydrogenation of olefins using RhH2(Ph2N3)(PPh3)2 in tetrahydrofuran
AU Kameda, Noriyuki; Igarashi, Reiko
CS Nihom Univ., Funabashi, 274, Japan
SO Journal of Molecular Catalysis (1992), 75(1), 15-20
CODEN: JMCADS; ISSN: 0304-5102
DT Journal
LA English
OS CASREACT 117:250942
AB The catalytic hydrogenation activity of RhH2(Ph2N3)(PPh3)2 (I) in THF with different unsatd. compds. (allyl alc., cinnamic alc., cinnamaldehyde, cinnamic acid, cinnamonitrile, acrylic acid, acrolein, acrylonitrile, and styrene) was studied. Acrolein, acrylic acid, and acrylonitrile were reduced in the presence of I, whereas, other substrates were not. The highest activity was observed with acrylonitrile. A possible mechanism for this reaction is suggested.
CC 23-19 (Aliphatic Compounds)
Section cross-reference(s): 22
IT 36059-83-3
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, for hydrogenation of acrylonitrile, acrolein, and acrylic **acid**)
IT 79-10-7, Acrylic acid, reactions **107-02-8**, Acrolein, reactions **107-13-1**, Acrylonitrile, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation of, in presence of rhodium hydride complex)
IT **107-02-8**, Acrolein, reactions **107-13-1**, Acrylonitrile, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation of, in presence of rhodium hydride complex)
RN 107-02-8 HCAPLUS

CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



L33 ANSWER 22 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1991:229693 HCAPLUS
DN 114:229693
TI Process for the manufacture of vinylcarbonyl compound-modified polyoxyalkylenes and their derivatives as reactive intermediates
IN Kuehn, Manfred
PA Akademie der Wissenschaften der DDR, Zentralinstitut fuer Molekularbiologie, Ger. Dem. Rep.
SO Ger. (East), 4 pp.
CODEN: GEXXA8
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DD 284239	A5	19901107	DD 1989-328842	19890524
PRAI	DD 1989-328842		19890524		

AB The title compds., useful as active intermediates for biotechnol., biochem., chemical, pharmaceuticals, and in medicines (no data), are prepared by the reaction of polyoxyalkylenes and their monoalkoxy derivs. (as well as amino group- or mercapto group-containing derivs.) in the presence of a basic or acid catalyst in aqueous solution, organic solution, or their mixture at a 20-150° with a vinyl carbonyl compound R1CH:C(R2)R3 (R1 = H, Me, Ph, C6H4NO2; R2 = H, methyl; R3 = CN, CHO, CO2H, CONH2, CONHNH2, CO2X; X = C1-4 alkyl). Thus, 3 g ω,ω'-diaminopolyethylene glycol (mol. weight 6000) was dissolved in the mixture of 40 mL chloroform and 10 mL ethanol, 1 mL acrylonitrile dissolved in 5 mL ethanol added, the mixture first stirred for 1 h at room temperature, distribution 8 h at 60°, 50 mL H2O added, the organic phase separated, washed twice with equal amts. of H2O, dried with Na2SO4, and the chloroform evaporated, producing 2.1 g of a nitrile group-modified polyethylene glycol derivative residue.
IC ICM C08G065-00
CC 35-8 (Chemistry of Synthetic High Polymers)
IT **64-19-7**, Acetic **acid**, uses and miscellaneous 100-85-6, Benzyltrimethylammonium hydroxide 109-63-7, Boron trifluoride etherate 584-08-7, Potassium carbonate 7446-70-0, Aluminum chloride, uses and miscellaneous 7637-07-2, Boron trifluoride, uses and miscellaneous 7646-85-7, Zinc chloride (ZnCl2), uses and miscellaneous 7664-93-9, Sulfuric **acid**, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalyst, for reaction of vinylcarbonyl compds. with polyoxyalkylenes and their derivs.)
IT 79-10-7DP, 2-Propenoic acid, reaction products with polyoxyalkylenes 80-62-6DP, reaction products with polyoxyalkylenes 104-55-2DP, Cinnamaldehyde, reaction products with polyoxyalkylenes **107-02-8DP**

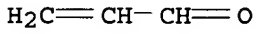
, Acrolein, reaction products with polyoxyalkylenes **107-13-1DP**, 2-Propenenitrile, reaction products with polyoxyalkylenes 4170-30-3DP, Crotonaldehyde, reaction products with polyoxyalkylenes 9004-74-4DP, Polyethylene glycol monomethylether, reaction products with vinylcarbonyl compds. 24991-53-5DP, reaction products with vinylcarbonyl compds. 25322-68-3DP, reaction products with vinylcarbonyl compds. 68865-60-1DP, reaction products with vinylcarbonyl compds. 80506-64-5DP, reaction products with vinylcarbonyl compds.
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, as reactive intermediates for biotechnol. and biochem. and chemical and pharmaceuticals and medicine, catalyst for)

IT **64-19-7**, Acetic **acid**, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalyst, for reaction of vinylcarbonyl compds. with polyoxyalkylenes and their derivs.)

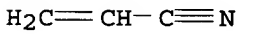
RN 64-19-7 HCAPLUS
CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)

IT **107-02-8DP**, Acrolein, reaction products with polyoxyalkylenes
107-13-1DP, 2-Propenenitrile, reaction products with polyoxyalkylenes
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, as reactive intermediates for biotechnol. and biochem. and chemical and pharmaceuticals and medicine, catalyst for)

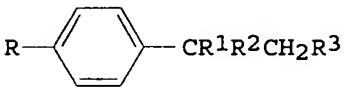
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



L33 ANSWER 23 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1985:148822 HCAPLUS
DN 102:148822
TI Reductive arylation of electron-deficient olefins: 4-(4-chlorophenyl)butan-2-one (2-butanone, 4-(4-chlorophenyl)-)
AU Citterio, Attilio
CS Ist. Chim., Politec. Milano, Milan, I-20133, Italy
SO Organic Syntheses (1984), 62, 67-73
CODEN: ORSYAT; ISSN: 0078-6209
DT Journal
LA English
GI



I

AB Benzenediazonium compds. 4-RC6H4N2+ (R = H, Br, Cl, OMe, MeCO) were treated with R1CR2:CHR3 (R1 = H, Me, CHMe2, CMe3, Ph; R2 = H, Me; R3 = COMe, CHO, cyano, CO2H, CO2Et) and TiCl3 to yield reductive arylation products I. Thus, CH2:CHCOMe was added to TiCl3 in DMF under N, 4-ClC6H4N2+ Cl- was introduced slowly, and the mixture was stirred to give 4-ClC6H4CH2CH2COMe.

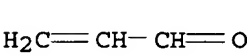
CC 25-16 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 23

IT 7705-07-9, uses and miscellaneous
RL: **CAT (Catalyst use)**; USES (Uses)
(catalyst, for reductive arylation of vinyl ketones, acrolein and acrylic **acid** by benzenediazonium salts)

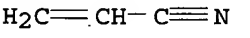
IT 79-10-7, reactions **107-02-8**, reactions **107-13-1**, reactions 122-57-6 140-88-5 141-79-7 625-33-2 5166-53-0 26465-92-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reductive arylation of, by chlorobenzenediazonium chloride, catalyst for)

IT **107-02-8**, reactions **107-13-1**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reductive arylation of, by chlorobenzenediazonium chloride, catalyst for)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



L33 ANSWER 24 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1984:491632 HCAPLUS
DN 101:91632
TI Removal of acrolein from acrylonitrile product streams
IN Denicola, Thomas Kevin
PA Monsanto Co. , USA
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 110861	A1	19840613	EP 1983-870122	19831118
	EP 110861	B1	19860730		
	R: DE, FR, GB, IT, NL				

PRAI US 1982-443356 A 19821122
AB Acrolein (I) [107-02-8] is removed from a crude acrylonitrile (II) [107-13-1] product stream in a recovery column by maintaining the pH at 5.25-7 in a zone of maximum I concentration of the column. Thus, a stream of II
containing 229 ppm acrolein in a recovery column (column bottom temperature 73°, column top temperature 83°, pressure 13.8 kPa) was injected with NaOH at tray 18 of 40 trays to adjust pH to 6.5, and the I content in the stream was reduced to 7 ppm.
IC C07C121-32
CC 35-2 (Chemistry of Synthetic High Polymers)
IT **107-13-1P**, uses and miscellaneous
RL: **PREP (Preparation)**; USES (Uses)
(acrolein removal from, pH effect on)
IT **107-02-8**, uses and miscellaneous
RL: **REM (Removal or disposal)**; PROC (Process)
(removal of, from acrylonitrile, pH effect on)
IT **107-13-1P**, uses and miscellaneous
RL: **PREP (Preparation)**; USES (Uses)
(acrolein removal from, pH effect on)
RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)

$H_2C{=}CH{-}C{\equiv}N$

IT **107-02-8**, uses and miscellaneous
RL: **REM (Removal or disposal)**; PROC (Process)
(removal of, from acrylonitrile, pH effect on)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

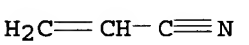
$H_2C{=}CH{-}CH{=}O$

L33 ANSWER 25 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1983:613024 HCAPLUS
DN 99:213024
TI Removing aldehyde impurities from acrylonitrile and acrylamide
IN Schmitt, Joseph Michael
PA American Cyanamid Co. , USA
SO Ger. Offen., 12 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

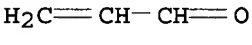
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3241198	A1	19830804	DE 1982-3241198	19821108
	GB 2114118	A1	19830817	GB 1982-28822	19821008
	FR 2520738	A1	19830805	FR 1982-21342	19821220
	JP 58134063	A2	19830810	JP 1983-9483	19830125
	NL 8300333	A	19830816	NL 1983-333	19830128
PRAI	US 1982-344087	A	19820129		

AB Aldehyde impurities are removed from acrylamide [79-06-1] and acrylonitrile (I) [107-13-1] using a weakly basic ion exchange resin containing primary or secondary amines. Thus, I containing .apprx.20-25 ppm

acrolein (II) [107-02-8] was passed through Amberlite IRA-45 [9055-98-5] ion-exchange resin at 10, 30, and 300 mL/h (contact time 30, 10, or 1 min, resp.) to give I containing <1 ppm II.
IC C07C121-32; C07C103-133; C07C120-00; C07C102-00
CC 35-2 (Chemistry of Synthetic High Polymers)
IT 79-06-1P, preparation **107-13-1P**, preparation
RL: **PREP (Preparation)**
(acrolein removal from, with ion-exchange resin)
IT **107-02-8**, uses and miscellaneous
RL: **REM (Removal or disposal)**; PROC (Process)
(removal of, from acrylamide and acrylonitrile, ion-exchange resins in)
IT **107-13-1P**, preparation
RL: **PREP (Preparation)**
(acrolein removal from, with ion-exchange resin)
RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



IT **107-02-8**, uses and miscellaneous
RL: **REM (Removal or disposal)**; PROC (Process)
(removal of, from acrylamide and acrylonitrile, ion-exchange resins in)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

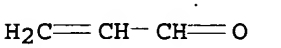


L33 ANSWER 26 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1982:527083 HCAPLUS
DN 97:127083
TI Hydrocyanation of activated olefins
IN Pesa, Frederick Anthony; Graham, Anne Marie
PA Standard Oil Co., USA
SO Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

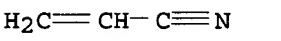
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 51697	A1	19820519	EP 1980-303540	19801008
	EP 51697	B1	19840208		
	R: BE, CH, DE, FR, GB, IT, LU, NL, SE				
	CA 1151669	A1	19830809	CA 1980-361379	19801002
PRAI	EP 1980-303540		19801008		

OS CASREACT 97:127083
AB The reaction of RCR1:CR2R3 (R, R1, and R2 independently are H, alkyl, aryl, cycloalkyl, aralkyl, CO2H, carbalkoxy, alkanoyl, carboxyalkyl, carbalkoxyalkyl, alkanoylalkyl; R3 = CO2H, carbalkoxy, cyano, alkanoyl, carboxyalkyl, carbalkoxyalkyl, cyanoalkyl, alkanoylalkyl) with HCN was catalyzed by group IA and IIA elements. The hydrocyanation of CH2:CHCO2Me over LiOAc gave 80.4% MeO2CCH2CH2CN.
IC C07C120-02; C07C121-407; C07C121-34; C07C121-20; B01J023-02; B01J023-04
CC 23-19 (Aliphatic Compounds)
IT 7757-79-1, uses and miscellaneous

RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, for hydrocyanation of Me acrylate and acrylic **acid**
)
IT 79-10-7, reactions 96-33-3 **107-02-8**, reactions
107-13-1, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrocyanation of, catalysts for)
IT **107-02-8**, reactions **107-13-1**, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrocyanation of, catalysts for)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)

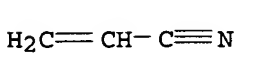


L33 ANSWER 27 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1980:494826 HCAPLUS
DN 93:94826
TI Purification of acrylonitrile
IN Saito, Jun; Hara, Junji; Mitsuishi, Takatoshi; Fujii, Kenzo
PA Mitsui Toatsu Chemicals, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

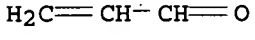
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 55013205	A2	19800130	JP 1978-78523	19780630
	JP 60051458	B4	19851114		
PRAI	JP 1978-78523	A	19780630		

AB H2C:CHCN (I) was purified by contacting the liquid phase of I with aqueous phases (pH 7.0-9.0) containing amine salts. Thus, 10 mL com. I containing 2.5 ppm
H2C:CHCHO (II) was shaken with 10 mL of an aqueous amine solution (prepared by adding 10 g EtNH2.HCl to 80 g H2O, adjusting to pH 8.0 with aqueous NaOH, and diluting to 100 mL with H2O) 3 h to leave as low as <0.1 ppm II and <5 ppm EtNHCH2CH2CN in I.
IC C07C121-32; C07C120-00
CC 23-19 (Aliphatic Compounds)
IT **107-13-1P**, preparation
RL: **PUR (Purification or recovery)**; **PREP (Preparation)**
(purification of)
IT **107-02-8**, uses and miscellaneous
RL: **REM (Removal or disposal)**; PROC (Process)
(removal of, in purification of acrylonitrile)
IT **107-13-1P**, preparation
RL: **PUR (Purification or recovery)**; **PREP (Preparation)**
(purification of)
RN 107-13-1 HCAPLUS

CN 2-Propenenitrile (9CI) (CA INDEX NAME)



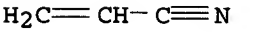
IT **107-02-8**, uses and miscellaneous
RL: **REM (Removal or disposal)**; PROC (Process)
(removal of, in purification of acrylonitrile)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



L33 ANSWER 28 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1980:129606 HCAPLUS
DN 92:129606
TI Purification of acrylonitrile
IN Saito, Jun; Hara, Junji; Mitsuishi, Takatoshi; Fujii, Kenzo
PA Mitsui Toatsu Chemicals, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

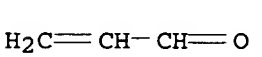
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 54151915	A2	19791129	JP 1978-60040	19780522
JP 58001108	B4	19830110		
PRAI JP 1978-60040	A	19780522		

AB Acrylonitrile (I) [107-13-1] was purified by contacting liquid I with porous ion exchangers containing primary and secondary amino exchangeable groups. Thus, com. I containing 2.5 ppm acrolein (II) [107-02-8] was treated with 50 mL porous Diaion WA 20 [12619-71-5] column (1.7 + 22 cm) at 200 mL/h for 5 h, thereby reducing the II content to <0.1 ppm.
IC C07C121-32
CC 35-2 (Synthetic High Polymers)
IT **107-13-1P**, preparation
RL: **PUR (Purification or recovery)**; **PREP (Preparation)**
(purification of, amino group-containing porous ion exchanger for)
IT **107-02-8**, uses and miscellaneous
RL: **REM (Removal or disposal)**; PROC (Process)
(removal of, from acrylonitrile, amino group-containing porous ion exchanger for)
IT **107-13-1P**, preparation
RL: **PUR (Purification or recovery)**; **PREP (Preparation)**
(purification of, amino group-containing porous ion exchanger for)
RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



IT **107-02-8**, uses and miscellaneous
RL: **REM (Removal or disposal)**; PROC (Process)
(removal of, from acrylonitrile, amino group-containing porous ion

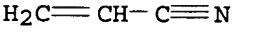
exchanger for)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



L33 ANSWER 29 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1976:74851 HCAPLUS
DN 84:74851
TI Purification of acrylonitrile
IN Frost, Brian W.
PA BP Chemicals International Ltd., UK
SO Fr. Demande, 5 pp.
CODEN: FRXXBL
DT Patent
LA French
FAN.CNT 1

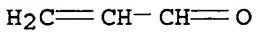
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2256914	A1	19750801	FR 1975-199	19750106
	GB 1431511	A	19760407	GB 1974-668	19741219
	CA 1019346	A1	19771018	CA 1974-217057	19741230
PRAI	GB 1974-668	A	19740107		

AB Acrolein (I) [107-02-8] and HCN [74-90-8] impurities in acrylonitrile (II) [107-13-1], prepared by catalytic reaction of I with O and NH3 at high temperature, were removed by treating impure II with an aqueous solution of an alkali metal, alkaline earth metal, or ammonium salt of an aliphatic carboxylic acid. Thus, 100 ml of a 1500 g/l. aqueous NH4OAc [631-61-8] solution was mixed at 38° with 100 ml of a II solution containing 5000 ppm I and 100 ppm succinonitrile (III). After 200 min the I concentration was reduced to 5 ppm and the III concentration was unchanged, confirming that no secondary reactions occurred.
IC C07C
CC 35-2 (Synthetic High Polymers)
IT **107-13-1P**, preparation
RL: **PUR (Purification or recovery); PREP (Preparation)**
(purification of, ammonium acetate treatment for removal of acrolein and hydrocyanic acid in)
IT **107-02-8**, uses and miscellaneous
RL: **REM (Removal or disposal)**; PROC (Process)
(removal of, from acrylonitrile, ammonium acetate treatment for)
IT **107-13-1P**, preparation
RL: **PUR (Purification or recovery); PREP (Preparation)**
(purification of, ammonium acetate treatment for removal of acrolein and hydrocyanic acid in)
RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)

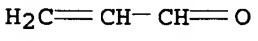


IT **107-02-8**, uses and miscellaneous
RL: **REM (Removal or disposal)**; PROC (Process)
(removal of, from acrylonitrile, ammonium acetate treatment for)

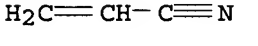
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



L33 ANSWER 30 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1973:518720 HCAPLUS
DN 79:118720
TI Gas-chromatography studies of physicochemical properties of bismuth-molybdenum catalysts
AU Lewicki, Andrzej; Paryjczak, Tadeusz; Beres, Janusz
CS Politech. Lodz, Lodz, Pol.
SO Roczniki Chemii (1973), 47(5), 981-7
CODEN: ROCHAC; ISSN: 0035-7677
DT Journal
LA Polish
AB The sorption of MeCH:CH2, CH2:CHCHO, CH2:CHCO2H, AcH, AcOH, and CH2:CHCN on Bi2O3, MoO3, Bi2O3.3MoO3 (α-phase), Bi2O3.2MoO3 (β-phase), and Bi2O3.MoO3 (γ-phase) was studied by gas chromatog. at 50-350°. Except for CH2:CHCO2H, the retention volume of all the substances studied increased slightly with increasing temperature The highest sorptive properties were observed for the γ and the α + γ phases.
CC 67-1 (Catalysis and Reaction Kinetics)
Section cross-reference(s): 66
IT 1304-76-3 13565-96-3 13595-85-2 16229-40-6
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, sorption by, of acrylic **acid** and related polar organic mols.)
IT 64-19-7, properties 75-07-0, properties 79-10-7, properties **107-02-8**, properties **107-13-1**, properties 115-07-1, properties
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(sorption of, by bismuth oxide-molybdenum oxide catalysts)
IT 64-19-7, properties 75-07-0, properties 79-10-7, properties **107-02-8**, properties **107-13-1**, properties 115-07-1, properties
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(sorption of, on bismuth molybdenum oxide catalysts)
IT **107-02-8**, properties **107-13-1**, properties
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(sorption of, by bismuth oxide-molybdenum oxide catalysts)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

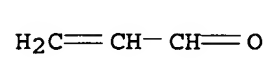


RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)

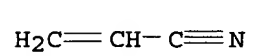


IT **107-02-8**, properties **107-13-1**, properties

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(sorption of, on bismuth molybdenum oxide catalysts)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



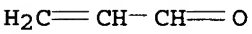
L33 ANSWER 31 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1972:487917 HCAPLUS
DN 77:87917
TI Catalysts for the oxidation of propylene to acrylonitrile or acrolein
IN Fattore, Vittorio; Notari, Bruno
PA Snamprogetti SpA
SO Ger. Offen., 15 pp. Addn. to Ger. 2,117,351.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2165978	A	19720622	DE 1971-2165978	19710408
	NO 130042	B	19740701	NO 1971-1299	19710405
	DK 132605	B	19760112	DK 1971-1708	19710407
	FR 2093436	A5	19720128	FR 1971-12678	19710409
	BE 765621	A1	19710830	BE 1971-3011	19710413
	CH 530378	A	19721115	CH 1971-530378	19710413
	AT 313866	B	19740311	AT 1971-3114	19710413
	HU 165998	P	19741228	HU 1971-SA2187	19710413
	PL 83201	P	19751231	PL 1971-147457	19710413
	CA 981241	A1	19760106	CA 1971-110230	19710413
	CS 174813	P	19770429	CS 1971-2630	19710413
	NL 7104954	A	19711018	NL 1971-4954	19710414
	ZA 7102388	A	19720126	ZA 1971-2388	19710414
	ES 390536	A1	19740401	ES 1971-390536	19710414
	SU 425380	D	19740425	SU 1971-1641109	19710414
	RO 56406	P	19740901	RO 1971-66575	19710414
	US 3850975	A	19741126	US 1971-133886	19710414
	JP 51040557	B4	19761104	JP 1971-23209	19710414
	SE 399704	C	19780608	SE 1971-4859	19710414
	GB 1354152	A	19740522	GB 1971-26693	19710419
	GB 1354153	A	19740522	GB 1973-39096	19710419
	PL 88981	P	19761030	PL 1972-153372	19720208
	US 3983054	A	19760928	US 1974-492222	19740726
	SE 7609779	A	19760903	SE 1976-9779	19760903
PRAI	IT 1970-23270	A	19700414		
	US 1971-133886	A3	19710414		

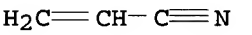
AB Addition to Ger. 2,117,351. U oxide-Te oxide catalysts of 1:4 U-Te molar ratio, optionally containing 25-50% SiO2 as support, were prepared by evaporating or
spray drying, then calcining the mixed aqueous solns. containing UO2(NO3)2.6H2O

(I), H2TeO4.2H2O (II), and optionally SiO2 solution The catalysts were used in a fluidized bed for the preparation of CH2:CHCN (III) or CH2:CHCHO by oxidation of C3H6 with air in the presence of NH3 or steam, resp., to give C3H6 conversion 36-84.3 mole % and III selectivity 53.4-69.4 mole %. Thus, 160 g II in 200 ml H2O was added to 100 g I in 200 ml H2O, the whole mixed with 184 g 30% SiO2 soln, spray-dried, pelletized, calcined 4 hr at 530° in air, and milled to give a catalyst containing 25% SiO2, which was used for manufacturing III to give C3H6 conversion 84.3 mole % at III selectivity 63.4%.

IC C07C
CC 23-19 (Aliphatic Compounds)
IT 29075-42-1
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts from telluric **acid** and, for oxidation of propylene)
IT **107-02-8P**, preparation **107-13-1P**, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, catalysts for)
IT **107-02-8P**, preparation **107-13-1P**, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, catalysts for)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)

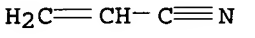


L33 ANSWER 32 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1971:551381 HCAPLUS
DN 75:151381
TI Separation of acrylonitrile
IN Yamada, Yoshiteru; Nagai, Shigeki; Odan, Kyoji; Bando, Yasuo
PA Ube Industries, Ltd.
SO Jpn. Tokkyo Koho, 5 pp.
CODEN: JAXXAD
DT Patent
LA Japanese
FAN.CNT 1

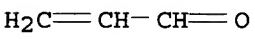
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 46030817	B4	19710907	JP	19680924

AB Acrylonitrile (I), MeCN, and acrolein were obtained from crude I (manufactured by ammoxidn. of propylene), vaporized, and treated with a mol. sieve composed of styrenedivinylbenzene copolymer to give pure I.
IC C07C; B01D
CC 23 (Aliphatic Compounds)
IT **107-13-1P**, preparation
RL: **PUR (Purification or recovery)**; **PREP (Preparation)**
(purification of, acetonitrile and acrolein removal in)
IT 75-05-8, uses and miscellaneous **107-02-8**, uses and miscellaneous

RL: **REM (Removal or disposal)**; PROC (Process)
(removal of, from acrylonitrile)
IT **107-13-1P**, preparation
RL: **PUR (Purification or recovery)**; **PREP (Preparation)**
(purification of, acetonitrile and acrolein removal in)
RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



IT **107-02-8**, uses and miscellaneous
RL: **REM (Removal or disposal)**; PROC (Process)
(removal of, from acrylonitrile)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



L33 ANSWER 33 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1970:66350 HCAPLUS
DN 72:66350
TI 1,3,6-Octatriene
IN Feldman, Julian; Saffer, Bernard A.; Frampton, Orville D.
PA National Distillers and Chemical Corp.
SO U.S., 4 pp. Continuation-in-part of U.S. 3284529
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

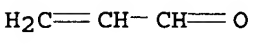
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3480685	A	19691125	US 1963-266514	19630320
PRAI US 1963-266514	A	19630320		

AB Linear dimers, e.g. 1,3,6-octatriene (I), are prepared from open-chain conjugated diolefins, e.g., 1,3-butadiene (II); 2,6-octadiene and 2,4,6-octatriene are recovered as by-products. II is contacted with a Ni(O) carbonyl catalyst, e.g. (PhO)3PNi(CO)3, (Bu3P)2Ni(CO)2, (Ph3As)2Ni(CO)2, or [(PhO)3P]2Ni diacrolein, and a C3-10 aliphatic or alicylic alc. as cocatalyst, at 70-160° 2-6 hr. to give a product containing 9-29% I. A polymerization inhibitor, e.g. p-tert-butylpyrocatechol, may be used.
IC C07C
INCL 260677000
CC 23 (Aliphatic Compounds)
IT 12120-60-4, Nickel, bis(acrylonitrile)bis(phosphorous **acid**)-, hexaphenyl ester 12567-69-0, Nickel, bis(acrolein)bis(phosphorous **acid**)-, cyclic diester with 2-(hydroxymethyl)-2-methyl-1,3-propanediol 12579-29-2, Nickel, bis(acrolein)bis(phosphorous **acid**)-, hexaphenyl ester 12580-97-1, Nickel, bis(cinnamonitrile)bis(triphenylphosphine)- 13007-90-4 14653-44-2 15698-54-1 15709-52-1 18474-92-5 20658-46-2 28042-59-3
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts, containing isopropyl alc. for octatriene manufacture)
IT **107-02-8DP**, Acrolein, nickel complexes **107-13-1DP**,

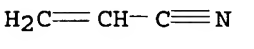
Acrylonitrile, nickel complexes 603-32-7DP, Arsine, triphenyl-, nickel complexes 603-35-0DP, Phosphine, triphenyl-, nickel complexes 603-36-1DP, Stibine, triphenyl-, nickel complexes 998-40-3DP, Phosphine, tributyl-, nickel complexes 1449-91-8DP, 1,3-Propanediol, 2-(hydroxymethyl)-2-methyl-, cyclic phosphite (1:1), nickel complexes 4360-47-8DP, Cinnamonitrile, nickel complexes
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT **107-02-8DP**, Acrolein, nickel complexes **107-13-1DP**, Acrylonitrile, nickel complexes
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



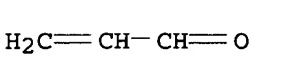
L33 ANSWER 34 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1968:410107 HCAPLUS
DN 69:10107
TI Arsenophosphomolybdic acid catalysts for preparation of acrylonitrile and acrolein
IN Young, Howard S.
PA Eastman Kodak Co.
SO U.S., 3 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3379652	A	19680423	US 1967-634772	19670428
PRAI US 1967-634772	A	19670428		

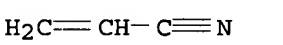
AB Title acid (I) catalyst compns. useful in preparation of acrylonitrile (II) and acrolein are prepared from an As oxide, H3PMo12O40 (III), and SiO2. Thus, a mixture containing dodecamolybdophosphoric acid hydrate 252, NH3-stabilized silica sol 825, As2O5 oxide 1212, and H2O 250 g. was heated with stirring until it thickened to a yellow slurry, dried on a steam bath, and calcined 4 hrs. at 200° to give I. A mixture of propylene 214, air 1071, and steam 214 ml. was passed over 200 ml. I in a reactor at 475°, with a contact time 2.97 sec. Acrolein (11.6% yield) was obtained after 30 min. with some acrylic acid. II was prepared in 57.9% yield from propylene, O, and NH3 by using I containing 5.2% As2O5 and 41.6% III. Similarly prepared were methacrolein and methacrylic acid by reaction between isobutylene and O in the vapor phase in the presence of I.

INCL 252437000
CC 23 (Aliphatic Compounds)
IT 1303-28-2, Arsenic oxide (As2O5)
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts from molybdophosphoric **acid** (H3PMo12O40) and

silica gel and, for oxidation of 2-methylpropene and propene)
IT **107-02-8P**, preparation **107-13-1P**, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of)
IT **107-02-8P**, preparation **107-13-1P**, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)

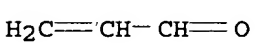


L33 ANSWER 35 OF 35 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1967:28373 HCAPLUS
DN 66:28373
TI Linear octatrienes
IN Feldman, Julian; Saffer, Bernard A.; Frampton, Orville D.
PA National Distillers and Chemical Corp.
SO U.S., 7 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

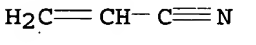
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3284529		19661108	US	19621231
	DE 1468408			DE	
	GB 1061482			GB	

AB 1,3,7-(I) and 1,3,6-Octatrienes (II) were prepared by polymerizing 1,3-butadiene in the presence of 0.5-5.0% Ni (0) catalyst, in particular, bis(triphenyl phosphite)-nickel dicarbonyl (III), and 10-30% by weight m-cresol co-catalyst at 70-160°, separating the components of the product by fractional distillation, and separating I from the resulting binary system of I and 4-vinyl-1-cyclohexene (IV) by thermal diffusion. Participation of the cresol in the reaction was demonstrated by the use of deuterated cresol. The linear octatrienes are useful in forming polymers. Thus, a 1-l. autoclave was charged with 5-10 g. ground CaC2, 72 g. m-cresol, 15 g. p-xylene, and 7 g. III purged with N, cooled, 419 g. chilled freshyl distilled 1,3-butadiene added, the chilled autoclave purged with N, closed, heated 20 hrs. with steam, cooled, vented, and the contents distilled through a Widmer column at atmospheric pressure to an overhead temperature of 175° to give 324 g. distillate and 177 g. residue. The distillate, as determined by vapor-phase chromatog, contained 34% I, 11% II, 9.2% and 34% 1,5-cyclooctadiene. By fractional distillation II and I could be separated from each other, but not from IV. IV was separated from I and II by liquid thermal diffusion in an apparatus described in detail. I b. 123°, d52 0.7640, n 24.8 D 1.46446.
INCL 260677000

CC 23 (Aliphatic Compounds)
IT Phosphorous **acid**, triphenyl ester, nickel complexes
RL: **CAT (Catalyst use)**; USES (Uses)
(catalysts from phenols and, for dimerization of 1,3-butadiene)
IT **107-02-8D**, Acrolein, nickel complexes **107-13-1D**,
Acrylonitrile, nickel complexes 603-35-0D, Phosphine, triphenyl-, nickel complexes 764-42-1D, Fumaronitrile, nickel complexes 4360-47-8D, Cinnamonitrile, nickel complexes 12114-60-2 12120-60-4 13007-90-4 14653-44-2
RL: CAT (Catalyst use); USES (Uses)
(catalysts from phenols and, for dimerization of 1,3-butadiene)
IT **107-02-8D**, Acrolein, nickel complexes **107-13-1D**,
Acrylonitrile, nickel complexes
RL: CAT (Catalyst use); USES (Uses)
(catalysts from phenols and, for dimerization of 1,3-butadiene)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



RN 107-13-1 HCAPLUS
CN 2-Propenenitrile (9CI) (CA INDEX NAME)



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